ORAL HEALTH PROGRAM REPORT 2003



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Nevada State Health Division
Department of Human Resources

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1. Introduction

In 1948, the World Health Organization defined health as "a complete state of physical, mental, and social well-being, and not just the absence of infirmity." As new research continues to discover associations between chronic oral disease with heart and lung diseases, low birth-weight, and diabetes, it is becoming clear that a person cannot attain a complete state of good health without good *oral* health. Although safe and effective methods exist for preventing disease and improving oral health, populations with lower socioeconomic status and lack of access to care suffer disproportionately from oral diseases and are more likely to have untreated conditions. Unfortunately, Nevada is not lacking in these populations. The tables below give a brief profile of the diversity of Nevada's population.

Figure 1.1

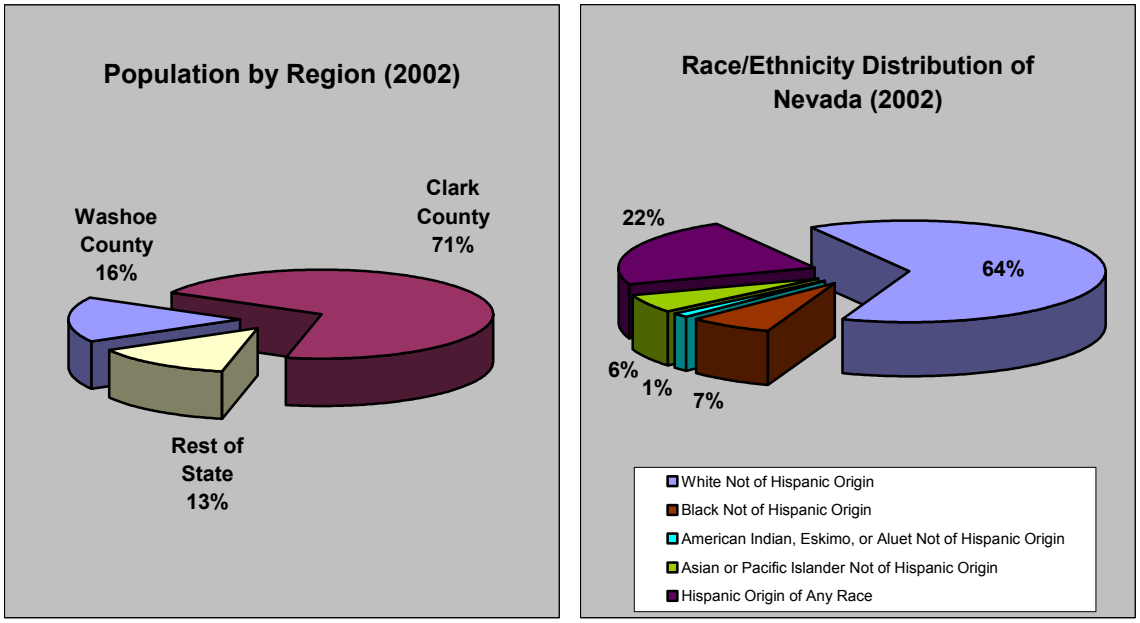

Figure 1.2

Age Group (yrs)	Population (2002)	Percent of Population	Percent at or Below Poverty (1999)
0-5	190,119	8.6%	15.9%
6-17	396,910*	18.0%	13.0%
18-64	1,376,986*	62.3%	9.7%
65 and over	246,635	11.2%	7.1%
Total	2,210,650	100.0%	10.5%

*2002 population estimates for age groups 6-18 and 19-64 from Nevada State Demographer.

For many years the Nevada State Health Division (NSHD) has worked to improve the oral health of Nevadans through the Maternal and Child Health (MCH) Block Grant. In 1999, funding from the MCH Block Grant made it possible to establish a State Oral Health Initiative (OHI) with a prevention and education focus. The Centers for Disease Control and Prevention (CDC) awarded the NSHD a five-year cooperative agreement in July 2001 that made it possible for Nevada to expand the activities originally supported by the OHI. The State Oral Health Program (OHP) was then established to work towards developing public education and media campaigns, creating a surveillance system, and improving the oral health of children by increasing sealant placement* through public and private partnerships.

The State Oral Health Program is releasing data in this first annual report to set forth baselines for Nevada's oral health. The document presents oral health data by age group: children (estimated by 3rd grade students), adolescents, adults and seniors. It also reports statistics for the incidence and mortality of Nevadans due to oral cancer, which includes disease of the lips, pharynx, and oral cavity. A section reporting results of a mail survey on oral cancer screening and counseling practices is also included. The data provided in these sections will serve as markers, indicating how closely Nevada is moving towards the Healthy People 2010 goals.

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*A dental sealant (also called a pit and fissure sealant) is a plastic, professionally-applied material that is put on the chewing surfaces of back teeth to prevent cavities. Sealants provide a physical barrier so that cavity-causing bacteria cannot invade the pits and fissures on the chewing surfaces of teeth.

2. Services for Children

Oral diseases are cumulative and become more complex over time. They progressively affect a person's ability to eat, communicate, and function in society. For this reason, a major focus of the OHP is children. By increasing awareness about prevention techniques in children, an improvement in the oral health of Nevadans will gradually follow. According to *Oral Health in America: A Report of the Surgeon General*, tooth decay is the single most common chronic childhood disease, with poor children experiencing twice as much decay as nonpoor children. More than 51 million school hours are lost each year due to dental related illness.

Nevada has several programs that work towards improving the oral health of children. Figure 2.1 presents a summary of dental services provided to children in the past year by several programs. It lists the number of children who were screened by each program and how many of those children had sealants placed by the program. A list and descriptions of these programs can be found in Appendix A.

Figure 2.1

Program	Number of Children Screened/Served	Number of Children Receiving Sealants
Clinic on Wheels[a]	4,903	- -
St. Mary's Take Care A Van[b]	2,304	1,804
Health Access Washoe County[c]	3,264	422
Miles for Smiles[d]	4,195	316
Indian Health Services[e]	1,030	3,636[f]

a) Ages 0-19
b) Second graders only
c) Ages 3-18
d) Elementary school children
e) Age groups are 0-3, 7-9, and 11-13. IHS includes Reno/Sparks, Washoe, Walker, Fallon, McDermitt, Elko, and Pyramid Lake facilities.
f) This is the number of sealants placed as opposed to the number of children who received sealants. Pyramid Lake is excluded.

Two of the largest programs working in partnership with the OHP are Medicaid and Nevada ✓Check Up (SCHIP). These programs provide preventive and restorative dental care to children in high-risk populations. Of the 1,186 licensed dentists in Nevada in 2002, 172 (10.7%) were listed as Medicaid providers, and only 72 of those were active providers. Medicaid serves children age 0-20 years. The number of children served over the past four years, has fluctuated between 16,600 and 22,900. However, participation rates have remained fairly constant with more children receiving preventive services than dental treatment services. Nevada ✓Check Up serves ages 0-18 years. Participation rates fluctuated around 10 percent in fiscal year 2003. The Division of Health Care Financing and Policy estimated that 39 percent of the dental visits were preventive.

Figure 2.2

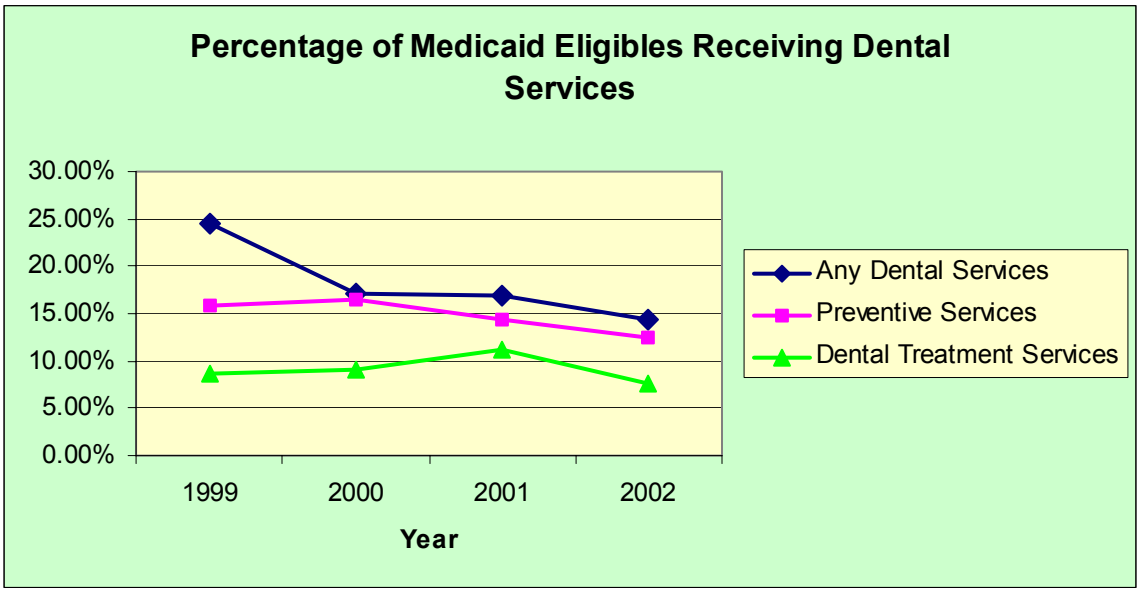
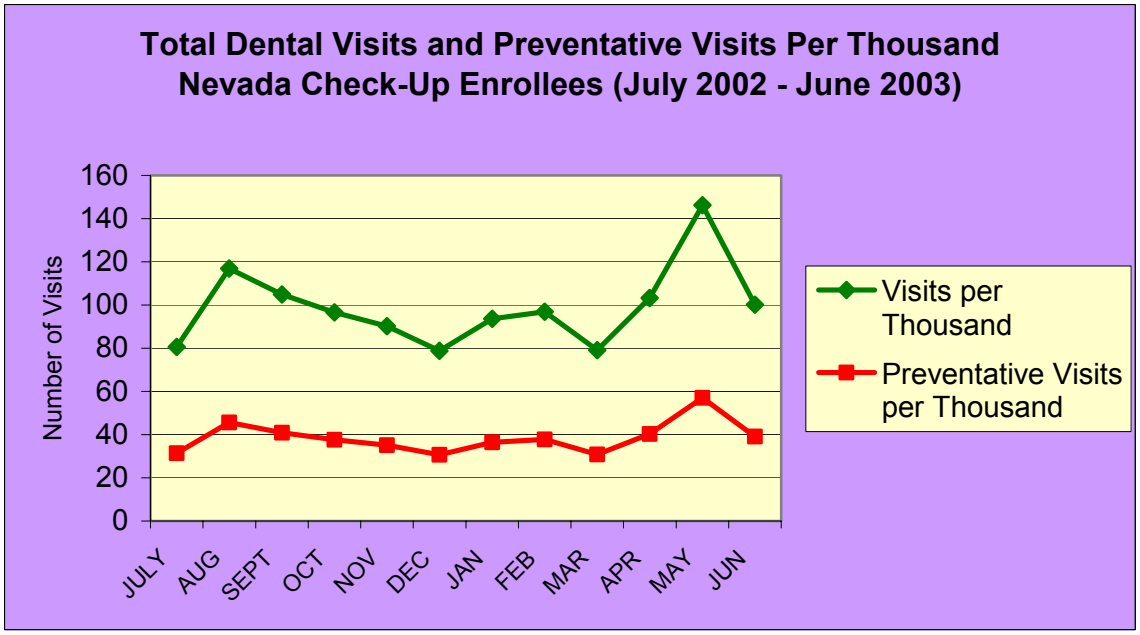


Figure 2.3



The data above show how these programs are working towards improving children's oral health in Nevada. However, they do not reflect the actual status of oral health. The following section will provide estimates of the prevalence of dental caries (tooth decay) and the severity of oral disease present in children.

3. Third Graders

In February 2003, a statewide open-mouth screening of third grade students was conducted. The goal was to establish baseline data, determine the oral health status and needs of children in Nevada, and provide the means to evaluate program effectiveness. The Basic Screening Survey model created by the Association of State and Territorial Dental Directors (ASTDD) was used to record the screening data.

Fifty-one schools were selected statewide. The parents of all third graders in the selected schools were given questionnaires and consent forms to complete. Children who returned consent forms underwent a visual screening performed by a volunteer dentist. A total of 2,705 children returned parental questionnaires and 2,470 were screened (46% response rate). The main results of the screening are shown below.

Figure 3.1

Oral Health of Nevada's Third Grade Children
Adjusted for Non-Response

Variable	Number with Data	Percent of Children	95% Confidence Interval*
Caries Free	2,470	32.9	29.9 – 35.8
Caries History	2,470	67.1	64.2 – 70.1
Untreated Decay	2,465	39.0	35.0 – 43.1
Dental Sealants	2,467	33.2	27.5 – 38.9
Treatment Urgency	2,441		
-none		58.0	53.3 – 62.7
-early		35.0	31.6 – 38.5
-urgent		7.0	4.1 – 9.9

*The true value lies within this range 95% of the time.

Figure 3.2

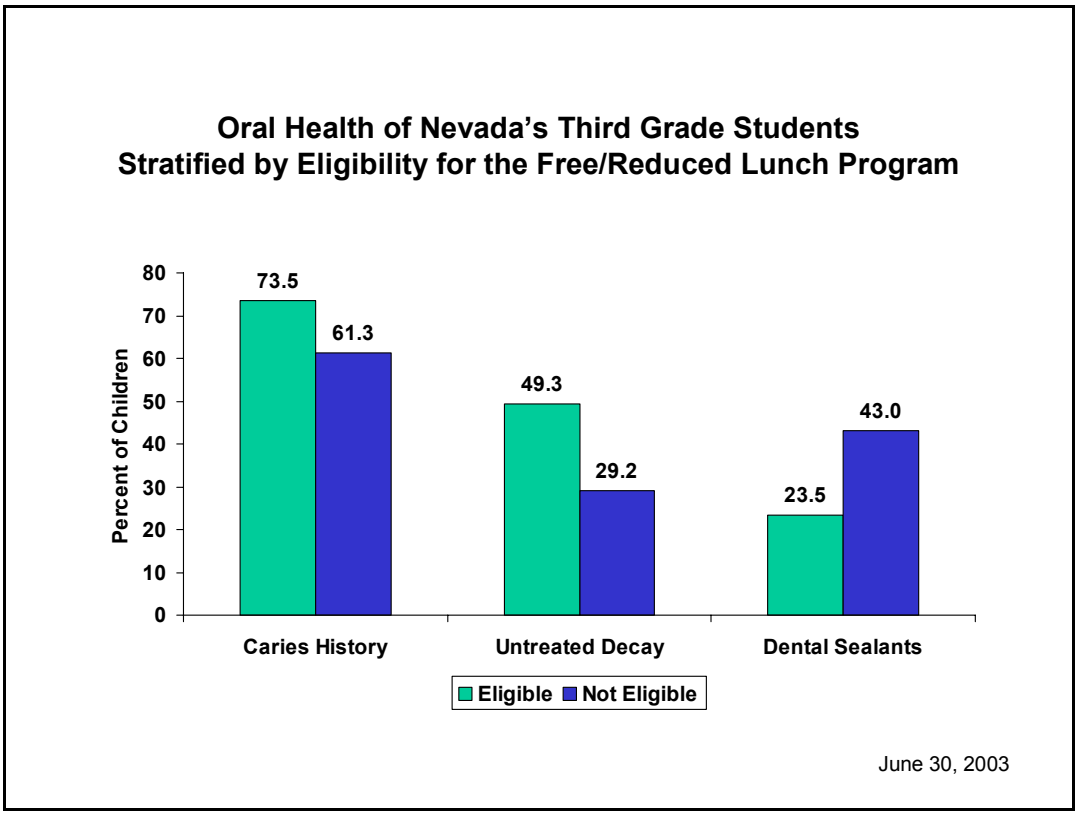
Last Dental Visit, Insurance and Access to Care for Nevada's Third Grade Children
All Children Who Returned a Questionnaire – Not Adjusted for Non-Response

Variable	Number	Percent of Children	95% Confidence Interval
Last Dental Visit			
Within last 12 months	2,705	58.3	56.4 – 60.2
1-3 years ago		19.7	18.3 – 21.3
More then 3 years ago		5.2	4.4 – 6.1
Never been to dentist		11.2	10.1 – 12.5
Unknown/Missing		5.5	4.7 – 6.4
Reason For Last Visit			
Went in on own for check-up	2,705	56.7	54.8 – 58.5
Called in for check-up		4.0	3.3 – 4.8
Something was wrong		9.9	8.9 – 11.1
Went for treatment		8.2	7.2 – 9.4
Other		3.6	2.9 – 4.4
Never been to dentist		11.5	10.3 – 12.7
Unknown/Missing		6.1	5.3 – 7.1
Medical Insurance			
Yes	2,705	70.9	69.1 – 72.6
No		23.0	21.4 – 24.6
Unknown/Missing		6.1	5.3 – 7.1
Dental Insurance			
Yes	2,705	65.0	63.1 – 66.7
No		27.4	25.7 – 29.1
Unknown/Missing		7.7	6.7 – 8.7
Trouble Accessing Care			
Yes	2,705	19.5	18.0 – 21.0
No		67.3	65.5 – 69.1
Unknown/Missing		13.2	12.0 – 14.5

*percents may not total 100% due to rounding

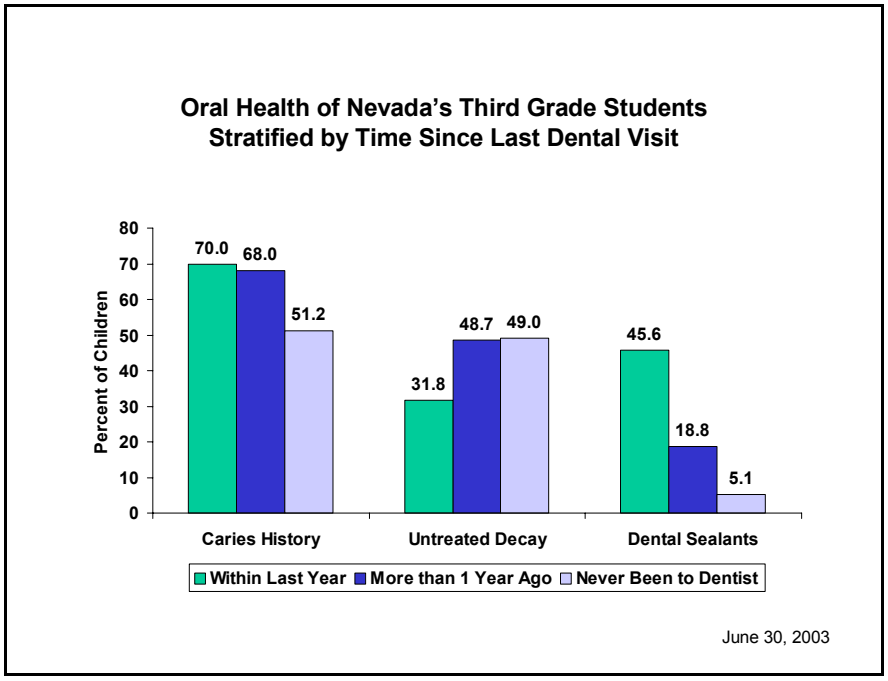
Participation in the Free/Reduced Lunch Program was used as an estimate of socioeconomic status. Statewide, 39 percent of children in schools with third grade classes were eligible for the program, and 39 percent of the students in participating schools were eligible. Forty-five percent of the children actually screened were eligible for the program. Screening results support the national finding that poorer children have poorer oral health. A significantly higher proportion of children eligible for the meal program, compared to those not eligible, had a history of caries (74% vs. 61%), had untreated decay (49% vs. 29%), and had a need for urgent dental care because of pain or infection (11% vs. 3%).

Figure 3.3.



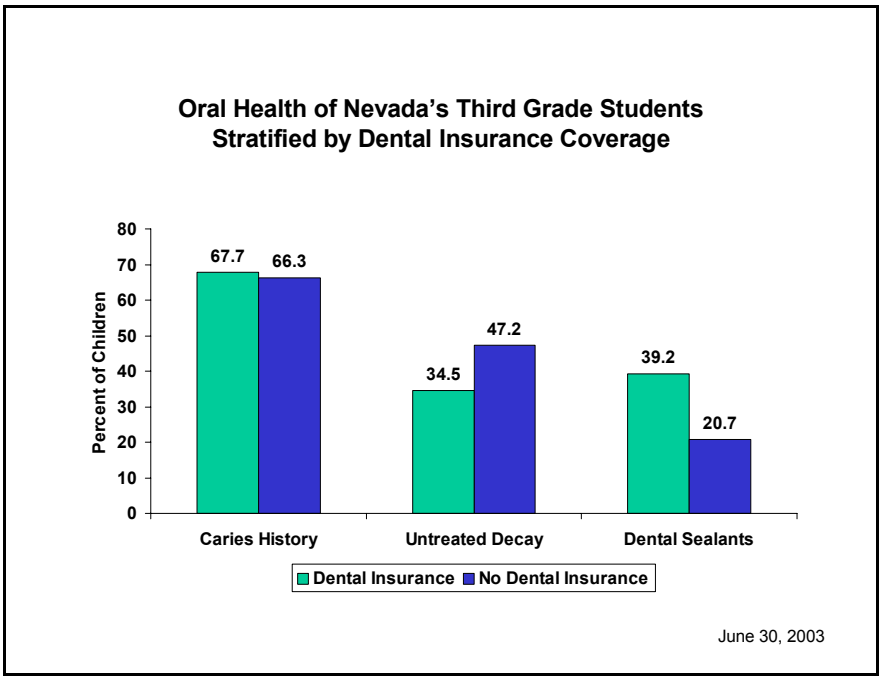
Similarly, children who have less frequent visits to the dentist, who have no dental insurance, or who are minorities have poorer oral health than their counterparts. While the majority of the parents (58%) reported that their child had been to a dentist in the last year, 25 percent reported that their child had not seen a dentist in the last year and 11 percent reported that their child had never been to a dentist. Children whose parents reported a dental visit in the last year were significantly more likely to have dental sealants (46% vs. 19% and 5%), were significantly less likely to have untreated decay (32% vs. 49% and 49%), and were significantly more likely to have no need for restorative dental care (67% vs. 48% and 41%).

Figure 3.4



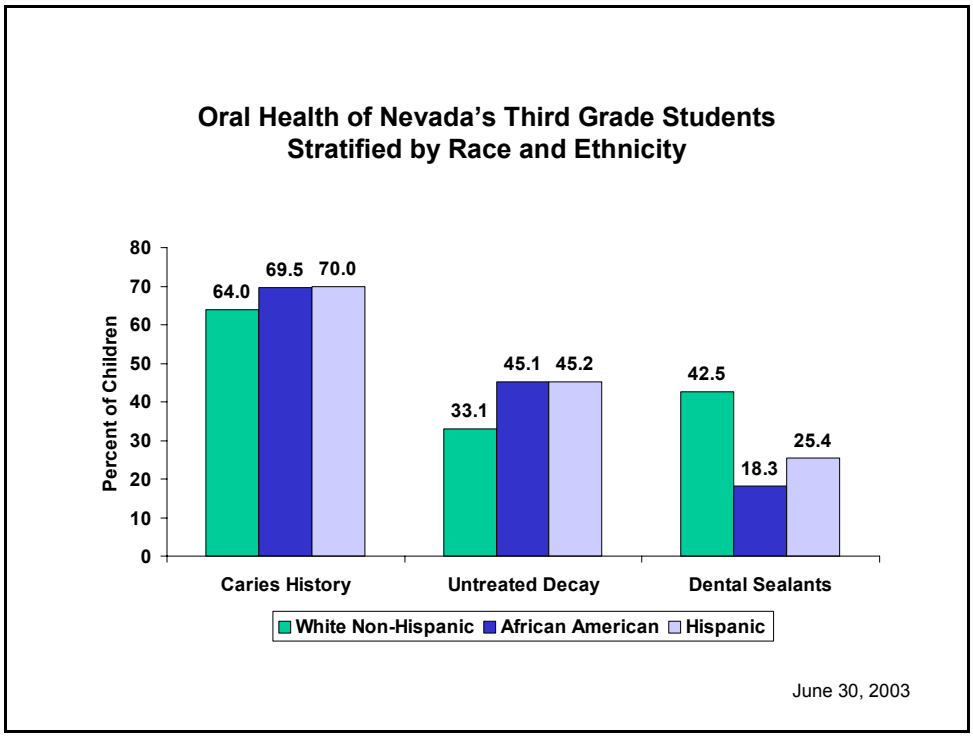
When stratified by dental insurance coverage (dental insurance vs. no dental insurance), significant differences in oral health status appeared. Compared to children with dental insurance, children without insurance were more likely to have untreated decay (35% vs. 47%) and less likely to have dental sealants (39% vs. 21%).

Figure 3.5



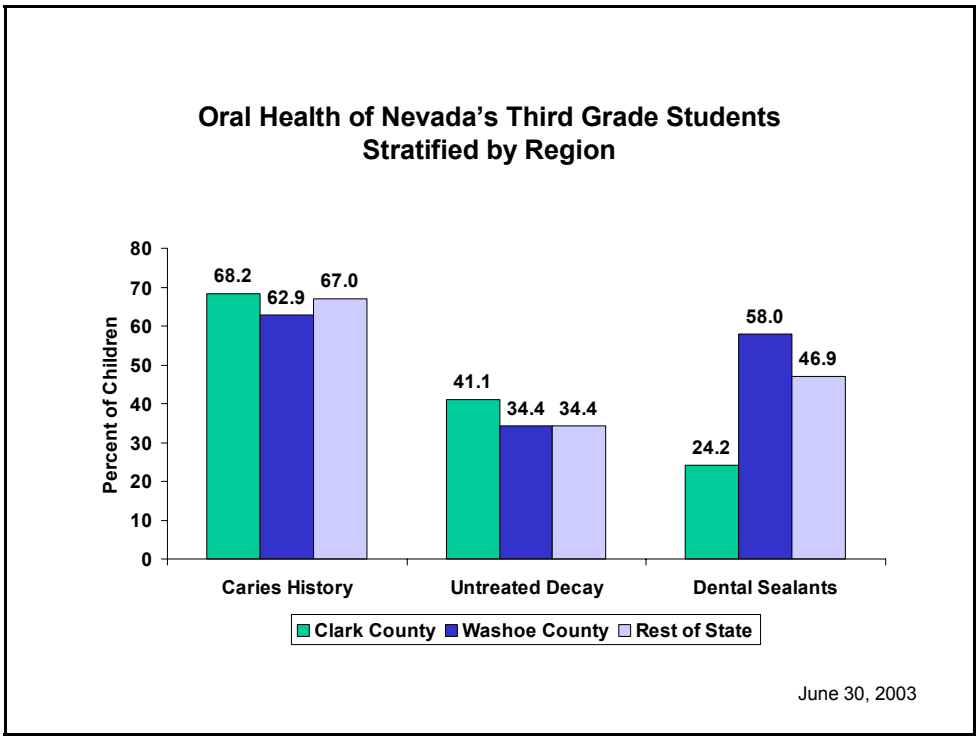
While there was no significant difference in the proportion of white and minority children with a history of dental decay, a significantly higher proportion of minority children have untreated decay (33% vs. 44%) and a significantly lower proportion of dental sealants (43% vs. 25%). It should also be noted that the minority children screened in Nevada were more likely to be eligible for the Free/Reduced Lunch program and were less likely to have visited the dentist in the last year. Hispanic children were also less likely to have dental insurance compared to both white and black children.

Figure 3.6



In terms of caries history and untreated decay, there were no regional differences within Nevada. Clark County, Washoe County, and the group of remaining counties differed only in the prevalence of dental sealants. A substantially lower proportion of Clark County children (24%) had dental sealants compared to Washoe County and Rest of State children (58% and 47% respectively).

Figure 3.7


Oral Health of Nevada's Third Grade Students
Stratified by Region
Percent of Children
80
70
60
50
40
30
20
10
0
68.2
62.9
67.0
41.1
34.4
34.4
24.2
58.0
46.9
Caries History
Untreated Decay
Dental Sealants
Clark County
Washoe County
Rest of State
June 30, 2003

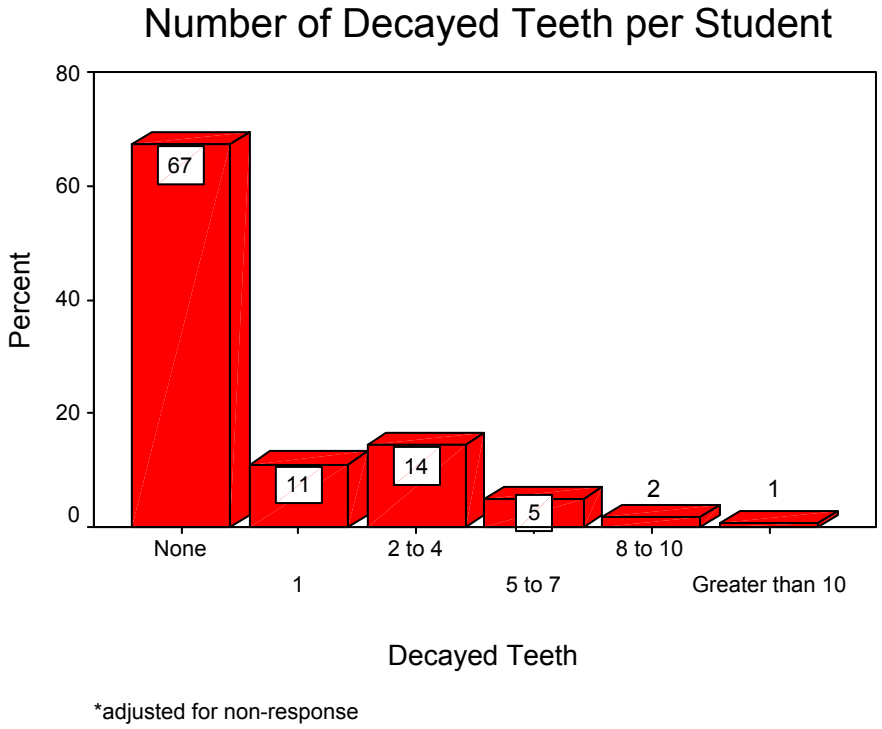
4. Adolescents (ages 14-18)

Adolescents have different dental needs than the younger children previously discussed. The oral health of teens may provide information on the effectiveness of preventative services that are available for children. Also, new risk factors are introduced in this cohort, such as eating disorders, alcohol consumption and tobacco use.

The Crackdown on Cancer program performs open mouth screenings on students to detect any abnormal, soft tissue lesions that may become cancerous. In addition to recording the severity of lesions (referred to as the "lesion suspicion level"), the program also records untreated decay ("decayed" teeth), missing teeth, treated decay ("filled" teeth) and frequency of tobacco use for each student. The program's data provides the Nevada State Health Division with information that may indicate a relationship between tobacco use and oral health in adolescents. Although high school students are targeted, some middle school students and adults associated with the schools were also screened. The figures in this report reflect the results for students ages 14-18 only, a total of 8,042 records.

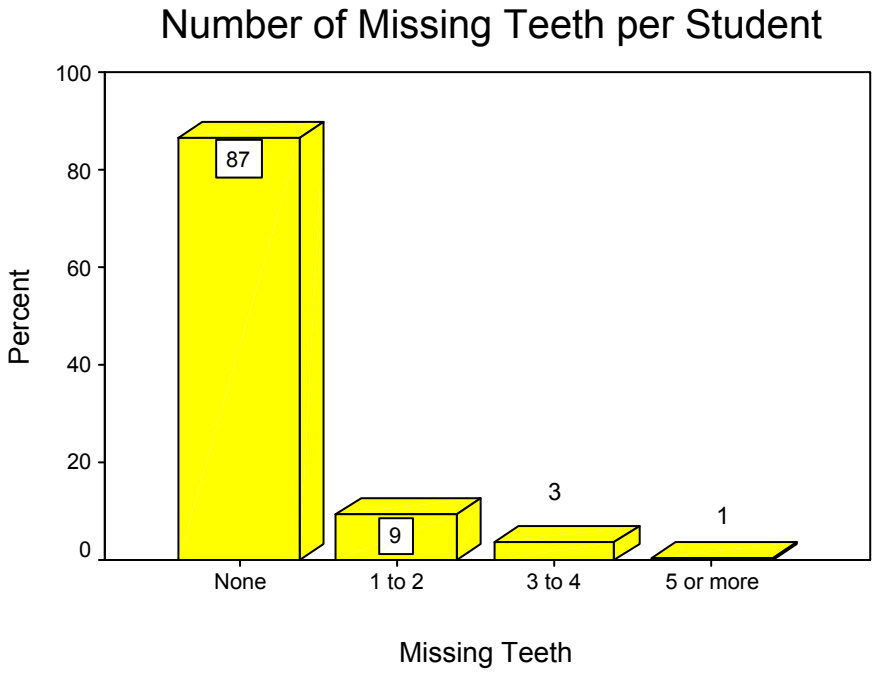
Figures 4.1 to 4.3 show the percentage of students screened with various numbers of decayed, missing, and filled teeth. The average number of decayed, missing, and filled teeth per student is 1.0, 0.3, and 1.7, respectively, for the 2002-2003 academic year.

Figure 4.1



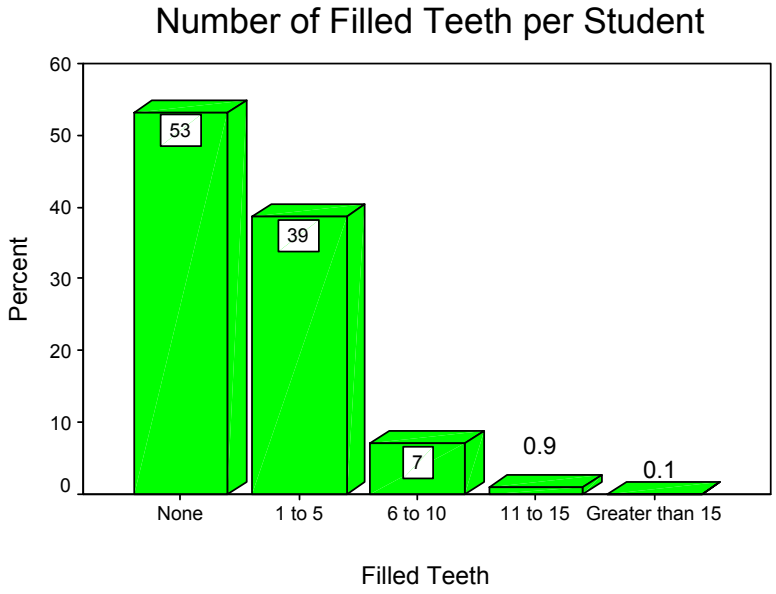
*adjusted for non-response

Figure 4.2



*adjusted for non-response

Figure 4.3

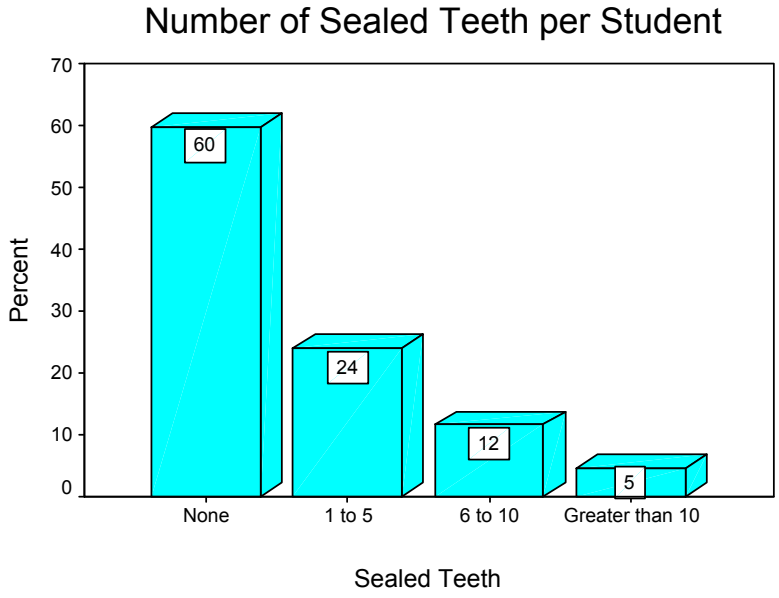


*adjusted for non-response

In 2002, Crackdown on Cancer began to collect data on the number of sealants possessed by each student. Students age 14-18 had an average of 2.5 sealants. If we look at the

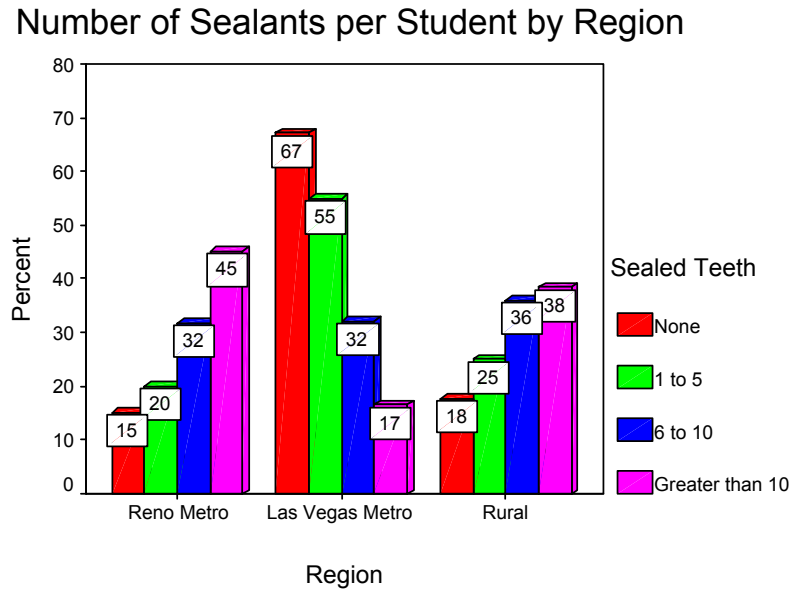
number of sealants per student by region, we have a result that mirrors that of the third grade screening. Students from Northern Nevada and rural areas tend to have more sealants than those from the Las Vegas Area. Figure 4.4 shows the statewide results.

Figure 4.4



*adjusted for non-response

Figure 4.5

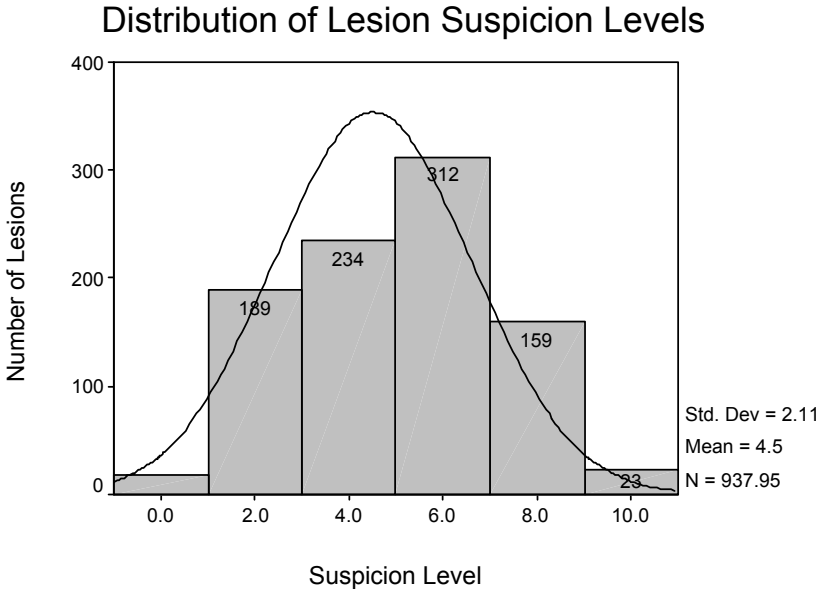


*adjusted for non-reponse

The number of lesions per student ranges from 0 to 4. Among those who have lesions (1.6%), the average level of suspicion is 4.5, based on a scale from 0 –10 with 10 as the most serious level of suspicion (see Fig. 4.6). Sixty-eight percent of serious tissue

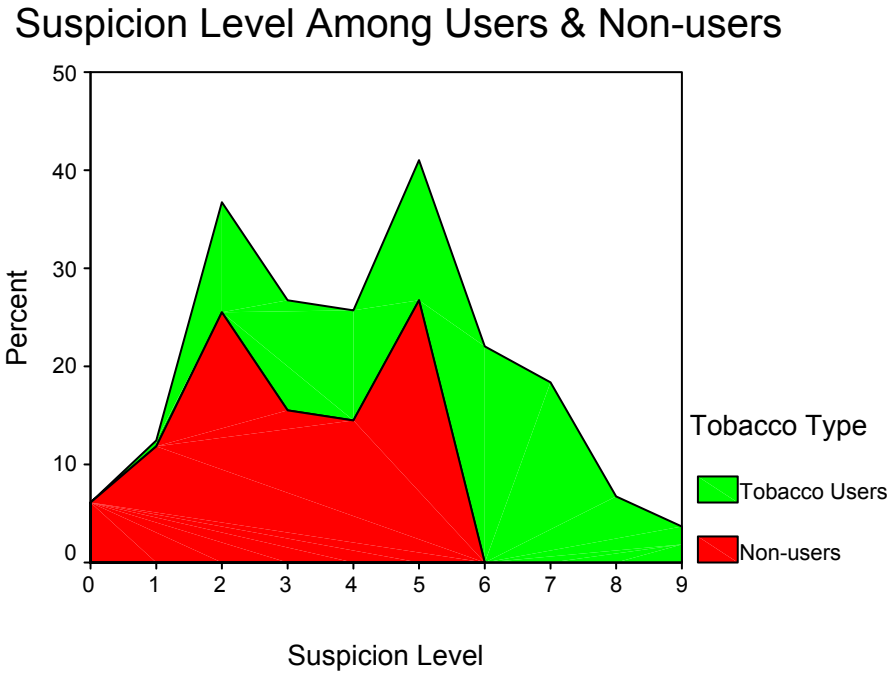
abnormalities (suspicion level 6-10) were found among tobacco users, compared to thirty-two percent of non-users. It is estimated that 19.4 percent of adolescents are tobacco users. This includes cigarettes, cigars, marijuana, smokeless tobacco, and other types of tobacco.

Figure 4.6



*adjusted for non-response

Figure 4.7



*adjusted for non-response

5. Adults & Seniors

Oral health data for adults is gathered through one vehicle in Nevada, the Behavioral Risk Factor Surveillance Survey (BRFSS). This is a statewide telephone survey that asks residents age 18 and over a group of health questions each year to estimate the level of health being maintained. As Cristman Associates performed the last oral health survey of seniors in 1999, the BRFSS is also a valuable source of data for this age group. In 2002, The BRFSS included three questions on oral health:

1. How long has it been since you last visited a dentist or a dental clinic for any reason?
2. How long has it been since you had your teeth cleaned by a dentist or dental hygienist?
3. How many of your permanent teeth have been removed because of tooth decay or gum disease?

The summary of results for all three questions is shown in Figure 5.1. Figures 5.2-5.3 show the results broken down by age groups, including seniors.

Figure 5.1

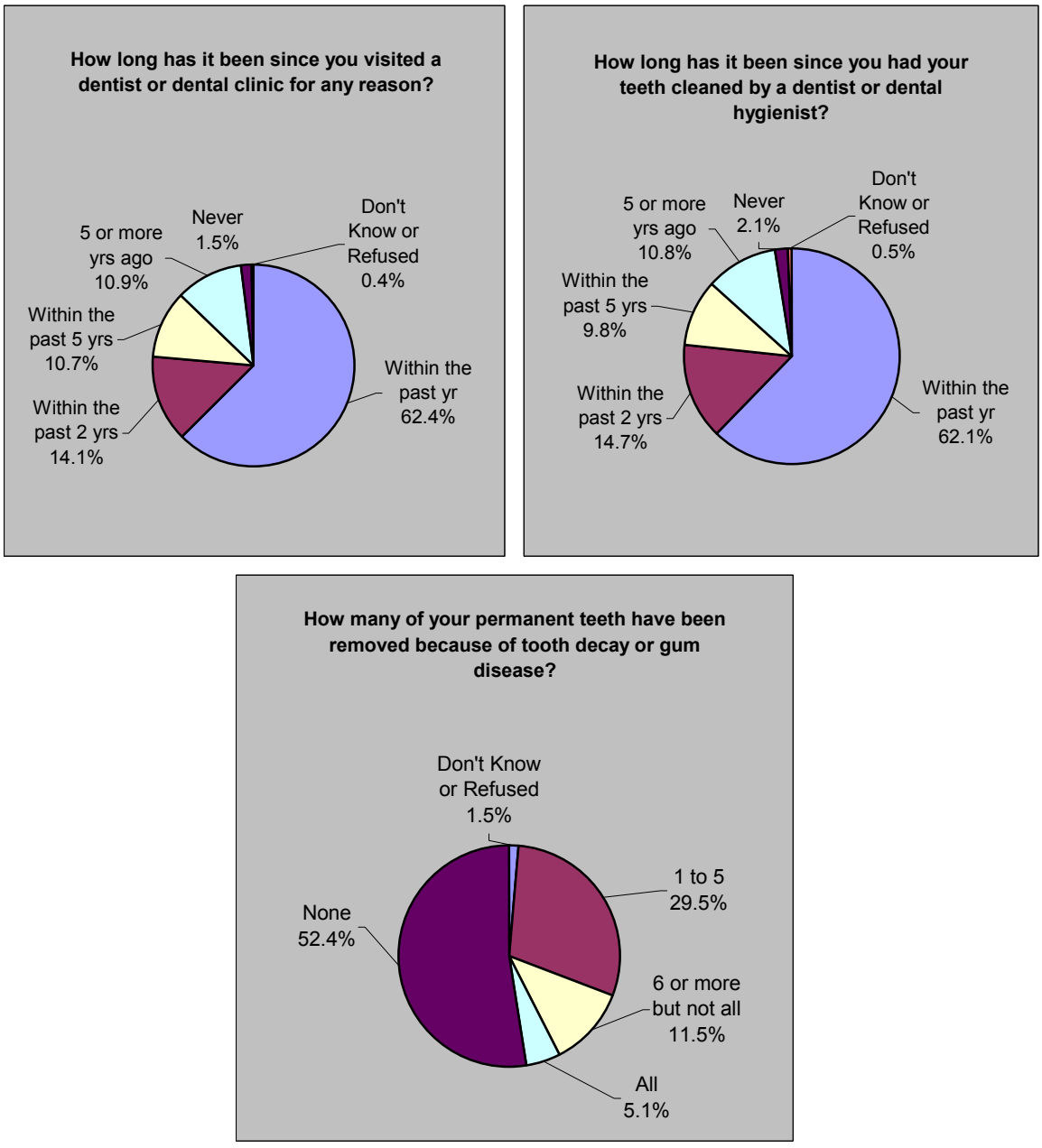

How long has it been since you visited a dentist or dental clinic for any reason?
Never 1.5%
Don't Know or Refused 0.4%
5 or more yrs ago 10.9%
Within the past 5 yrs 10.7%
Within the past yr 62.4%
Within the past 2 yrs 14.1%
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?
5 or more yrs ago 10.8%
Never 2.1%
Don't Know or Refused 0.5%
Within the past 5 yrs 9.8%
Within the past 2 yrs 14.7%
Within the past yr 62.1%
How many of your permanent teeth have been removed because of tooth decay or gum disease?
Don't Know or Refused 1.5%
1 to 5 29.5%
None 52.4%
6 or more but not all 11.5%
All 5.1%

Figure 5.2

		Age groups						Total
		18-24	25-34	35-44	45-54	55-64	65+	
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	57.2%	59.2%	61.9%	69.7%	69.4%	56.2%	62.4%
	1 yr - 2 yrs ago	14.4%	14.1%	15.3%	15.4%	11.9%	12.9%	14.1%
	2 yrs - 5 yrs ago	16.1%	11.0%	11.0%	8.0%	7.4%	11.7%	10.7%
	5+ yrs ago	9.9%	11.0%	10.6%	6.5%	10.8%	17.7%	10.9%
	DK/NS		.1%	.1%		.5%	.4%	.2%
	Never	2.3%	4.3%	1.1%	.4%		.4%	1.5%
	Refused		.3%				.7%	.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 5.3

		Age groups						Total
		18-24	25-34	35-44	45-54	55-64	65+	
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	52.9%	62.0%	58.0%	67.3%	68.0%	63.9%	62.1%
	1 yr - 2 yrs ago	16.6%	13.0%	17.3%	13.7%	13.4%	13.9%	14.7%
	2 yrs - 5 yrs ago	16.0%	10.9%	10.1%	7.6%	7.3%	7.6%	9.8%
	5+ yrs ago	11.0%	11.1%	12.1%	9.2%	10.7%	10.1%	10.8%
	DK/NS	.4%	.1%	.3%	.7%	.2%	.3%	.3%
	Never	3.2%	2.4%	2.2%	1.5%	.3%	3.3%	2.1%
	Refused		.3%				.9%	.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Figure 5.4

		Age groups						Total
		18-24	25-34	35-44	45-54	55-64	65+	
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	14.4%	23.8%	33.9%	38.1%	34.3%	28.0%	29.5%
	6 or more, but not all	1.9%	3.2%	5.5%	12.7%	23.6%	26.3%	11.5%
	All	.3%	.3%	1.8%	4.1%	7.4%	19.6%	5.1%
	DK/NS		.4%	.1%	1.7%	1.6%	3.6%	1.2%
	None	83.3%	71.9%	58.6%	42.9%	33.0%	21.8%	52.5%
	Refused		.4%		.5%		.7%	.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

The results for each age group are fairly constant. Although nearly 60 percent of adults have visited a dentist or dental clinic within the past year, there is much room for improvement. About 23 percent have not received dental services for 2 or more years. Approximately two percent have never seen a dentist nor been to a dental clinic.

The oral health of seniors seems to have declined slightly since 1999. It was estimated by the 1999 BRFSS that 16.5 percent of seniors had lost all their natural teeth. The estimate for 2002 is 19.6 percent. Although the 2002 results do not consider any oral health problems such as difficulty chewing, swallowing, pain, or possible gum disease, these will be included in future years. Cristman Associates gathered some of this information in 1999 in a study of seniors. The results are shown in Figure 5.6. The OHP plans to conduct a survey of senior oral health within the next two years to update these data.

Figure 5.6

Comparison of Survey Responses by Percentage of Respondents:
by Staff Report at LTC/SNFs & Senior Reports at Community Senior Centers (1999)

Item of Inquiry about Oral Health	LTC/SNF	Newly Admitted to LTC/SNF	General Community
Chewing problems	13%	10%	24%
Swallowing problems	13%	13%	
Mouth pain	2%	2%	8%
Have dentures or removable bridges	51%	55%	58%
Have lost some natural teeth, but have no dentures or partial plate	25%	21%	23%
Lost all natural teeth, but no dentures	8%	8%	6%
Broken, loose or carious teeth	6%	5%	14%
Inflamed gums (gingiva), swollen or bleeding gums	1%	1%	6%
Oral infections, ulcers or rashes			3%

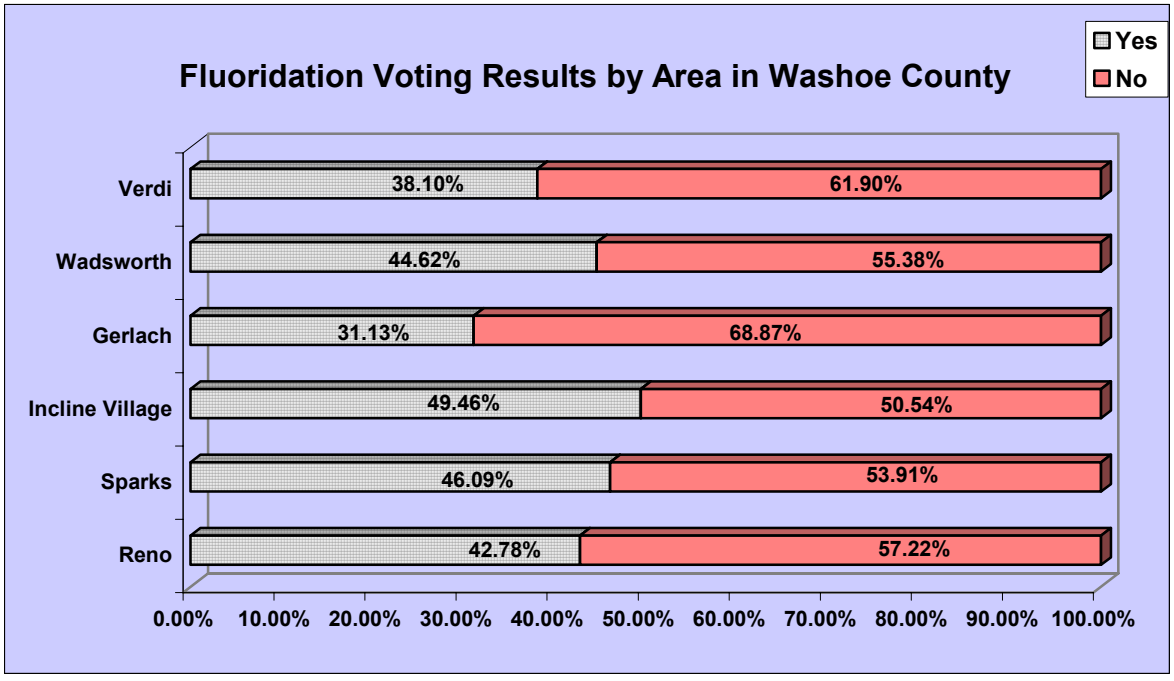
*LTC/SNF – Long Term Care/Skilled Nursing Facility

6. Fluoride

Fluoridation is viewed as the single most effective public health measure to prevent tooth decay and to improve oral health over a lifetime. Community water suppliers in Clark County initiated water fluoridation in March 2000. However, only residents receiving water from the City of Henderson system and the Las Vegas Valley Water District (Southern Nevada Water Authority) receive fluoridated water. According to the Safe Drinking Water Information System (SDWIS), City of Henderson serves 209,525 persons, Southern Nevada Water Authority serves 1,158,392 persons, and Nellis Air Force Base serves 6,288 persons. The program thus estimates that 75% of Clark County has access to fluoridated water. Since military facilities are optimally fluoridated by government requirement, eliminating the Air Force base gives us 69.4% of all Nevadans receiving optimally fluoridated community water. No other counties in Nevada have fluoridated water systems.

In November 2002, the voters of Washoe County voted against adjusting the fluoride content of community water supplies to a level proven to reduce tooth decay. The final results were 58 percent "No," to 42 percent "Yes."

Figure 6.1



*Data from the Washoe County Registrar of Voters. Some precincts excluded to maintain confidentiality.

7. Oral Cancer Statistics

Oral and throat cancers, with a 5-year survival rate of 52 percent, account for 2.4 percent of all cancers in the United States. A person diagnosed with these cancers loses an average of 16.5 years of life, proving them to be serious illnesses that the public, and health professionals, must monitor closely.

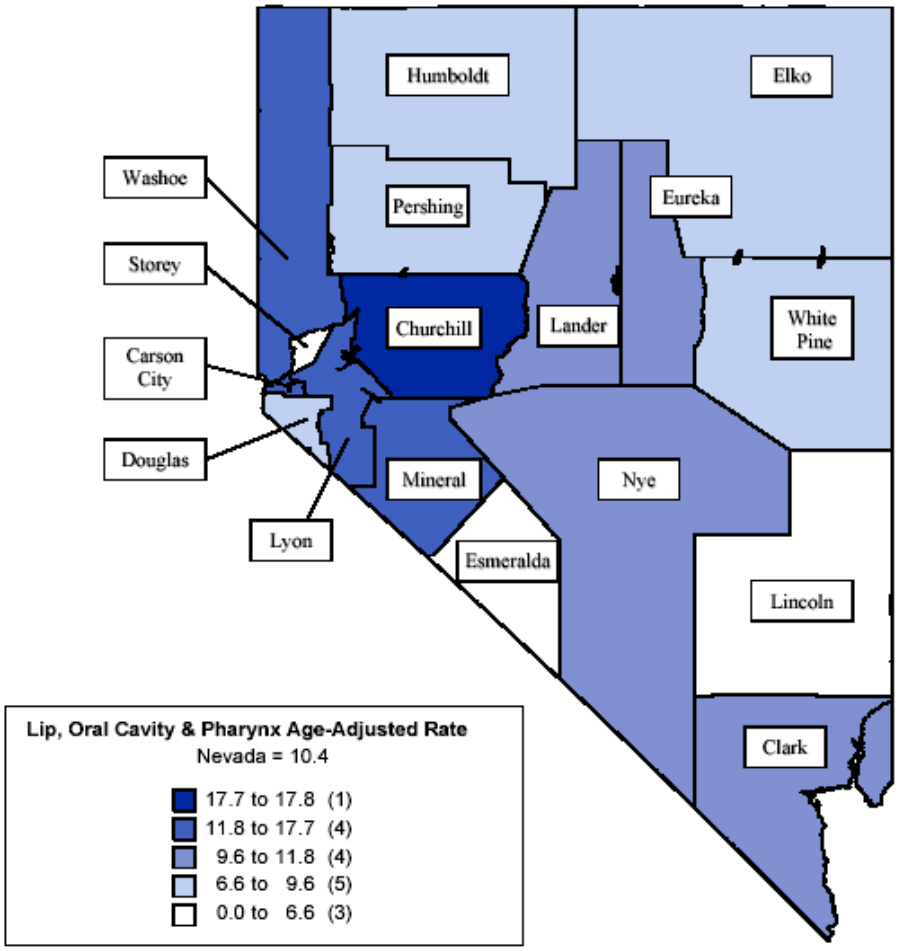
In 2000, 30,200 cases of oral and pharyngeal cancer in the U.S. were projected. For the same year, Nevada recorded 210 cases, representing 2.3% of all cancers in Nevada. The rate for these cancers was twice as high for men as for women (13.84 cases per 100,000 compared to 6.85, respectively). The total rate (10.41 per 100,000 population) in Nevada was greater than those for cervical and ovarian cancers. It was nearly equal to that for leukemia.

With a high of 11.09 and a low of 9.12, the incidence rate of oral cancer in Nevada has remained fairly constant in recent years. Figure 7.1 shows the incidence rates in each county for years 1996-2000. When analyzed regionally (Washoe, Clark, Rest of State), no significant differences in the incidence rates were found.

Figure 7.2 shows incidence rates by gender and race/ethnicity. It also compares these rates to the 1995-1999 Surveillance, Epidemiology, and End Results – 11 (SEER-11) rates. SEER-11 provides an estimate of incidence rates based on 11 specific population samplings in the U.S. Nevada's total incidence rate was lower than the national rate (11.0). Whites experienced the highest incidence rate of any other racial/ethnic group, and the rate for men was slightly more than double that for women.

Figure 7.1

Lip, Oral Cavity and Pharynx Cancer Age-Adjusted (2000) Incidence Rates, Nevada Residents 1996-2000



Note: Rates are per 100,000 population and age-adjusted to 2000 US Standard population. Caution should be used when interpreting rates based upon small numbers. See Technical notes for more information.

Figure 7.2

Lip, Oral Cavity and Pharynx Cancer Incidence Rates by Gender, Race/Ethnicity and County/Region of Residence at Diagnosis, Nevada Residents (1996-2000) and SEER-11 (1995-1999)

Category	County/Region of Residence				
	Nevada	Clark	Washoe	Rest of State	SEER (1995-1999)
Total Rates	10.4	10.1	11.8	10.3	11.0
Gender					
Male	14.5	14.0	16.4	15.0	16.4
Female	6.6	6.7	7.2	5.6	6.7
Race/Ethnicity					
White	11.5	11.3	12.3	11.2	10.9
Black	7.7	8.2	--	--	12.8
Native American	--	--	--	--	4.0
Asian	5.8	6.0	--	--	9.2
Hispanic	4.3	3.7	--	--	6.3

1. Table is adapted from "Report on Cancer in Nevada 1996-2000."
2. Rates are per 100,000 population and are age-adjusted to the 2000 US standard population.
3. "—" indicates rates calculated on numbers less than ten and SEER numbers less than five.

Similarly, the mortality rate for men (3.2) from lip, oral cavity and pharynx cancer was higher than that for women (1.8). African Americans experienced the highest mortality rate of any other racial/ethnic group. Between 1996 and 2000, Nevada had 213 deaths from oral cancer, equaling a mortality rate of 2.5 per 100,000 population.

Figure 7.3

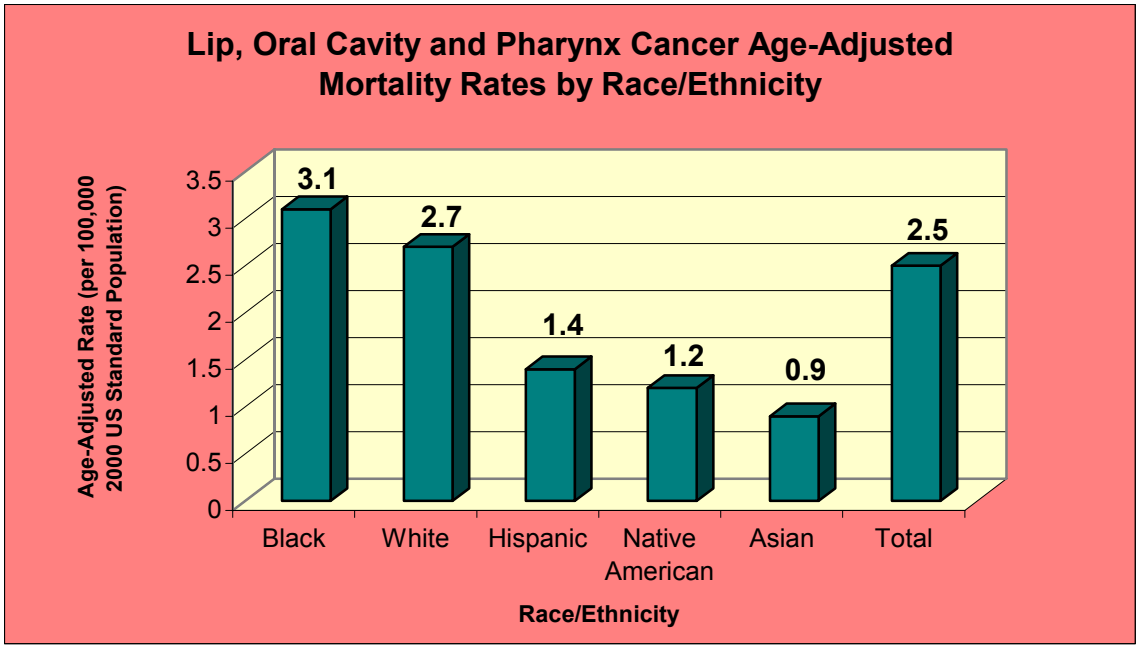
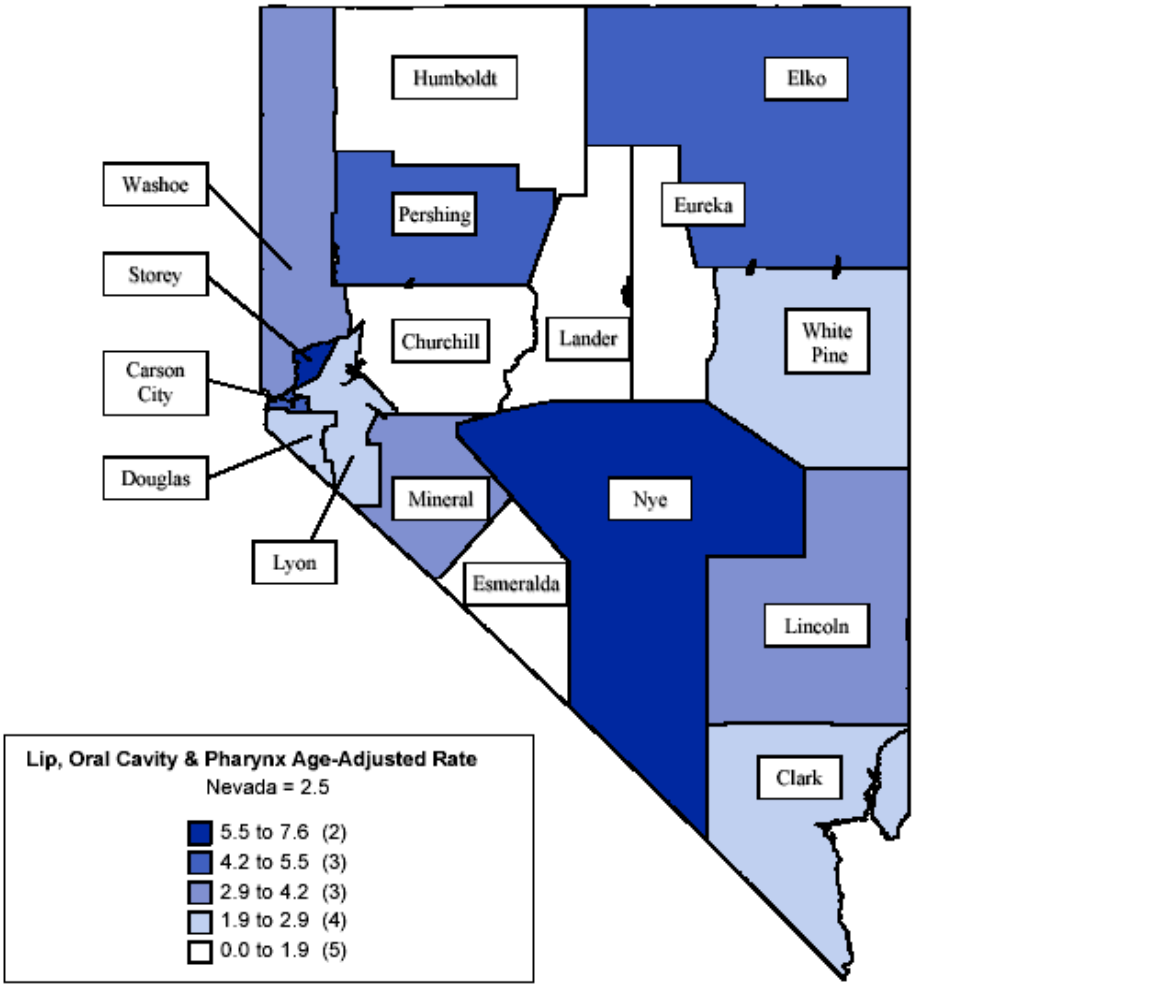


Figure 7.4

Lip, Oral Cavity and Pharynx Cancer Age-Adjusted (2000) Mortality Rates, Nevada Residents 1996-2000



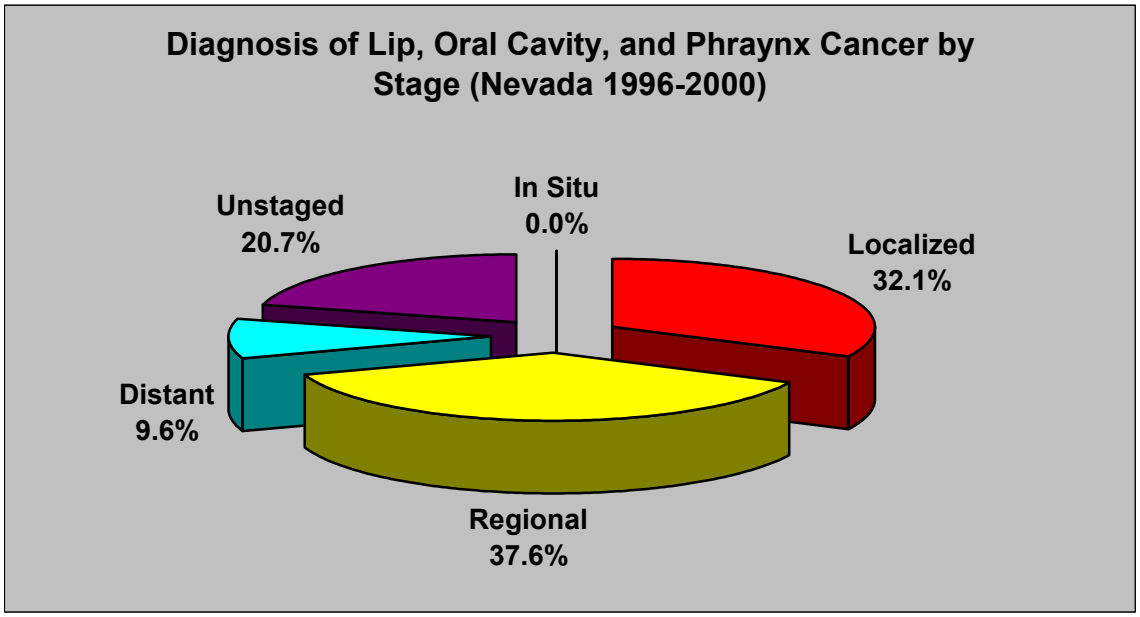
Note: Rates are per 100,000 population and age-adjusted to 2000 US Standard population. Caution should be used when interpreting rates based upon small numbers. See Technical notes for more information.

The median age at diagnosis of Lip, Oral Cavity and Pharynx Cancer for Nevada residents between 1996 and 2000 was 62 years. Nevadans were diagnosed at one of five possible stages: in situ, localized, regional, distant, and unstaged (unknown). Staging is used to indicate prognosis and estimate survival rates. Each stage is briefly defined below.

- In Situ: malignant cells are present within the cell group from which they arose; the diagnosis in this stage can only be made microscopically.

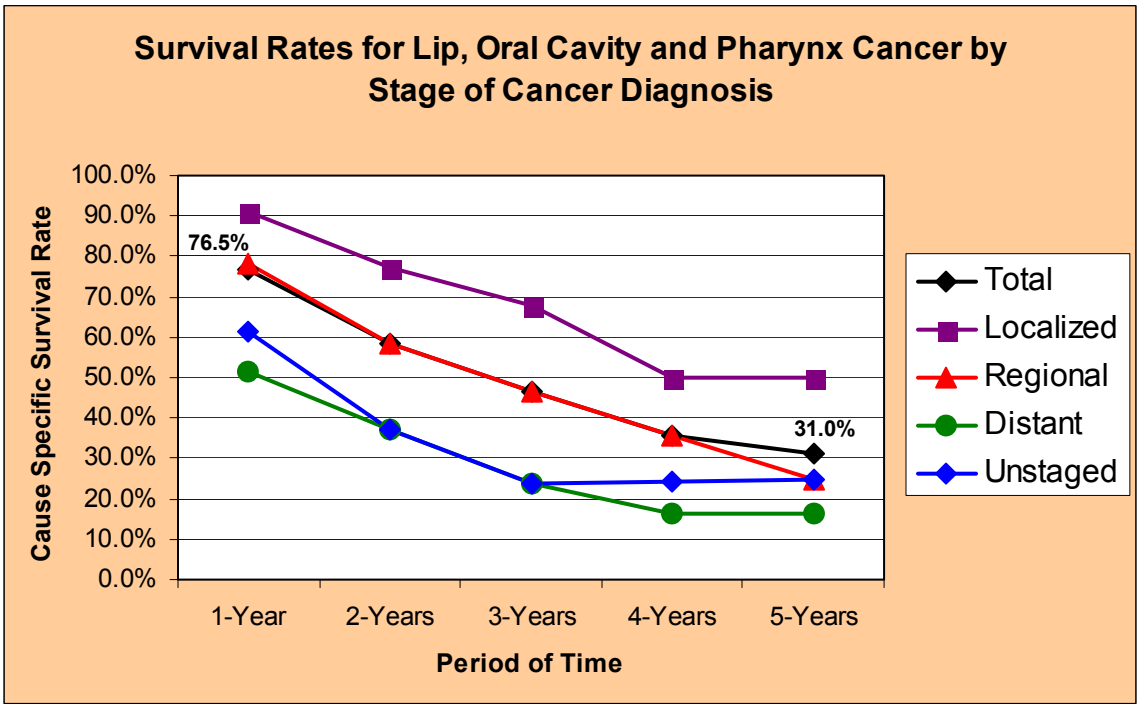
- Localized: malignancy that has spread no farther than the organ of origin
- Regional: the most difficult stage to properly identify; tumor extension beyond the organ of origin; it can be easily confused with distant spread
- Distant: tumor cells have traveled to other parts of the body and have begun to grow at a new location; cancer cells can travel from the primary site by extension into an adjacent organ, through lymph channels, by invasion of blood vessels, and through fluids in a body cavity
- Unstaged: cases for which sufficient evidence is not available to assign a stage; usually due to death of patient before a workup is completed, refusal of treatments or diagnostic procedures, or when there is another illness present

Figure 7.5



A decline in survival rates is suggested as the extent of disease increases in severity. The five-year survival rate for Nevadans with oral cancer at the localized stage was 49.9 percent. Survival rates for those at the regional and distant stages were 25.0 percent and 16.1 percent, respectively. Between 1996 and 2000, the five-year survival rate for women (28.5%) was slightly less than that for men (33.6%).

Figure 7.6


Survival Rates for Lip, Oral Cavity and Pharynx Cancer by Stage of Cancer Diagnosis
Cause Specific Survival Rate
100.0%
90.0%
80.0%
70.0%
60.0%
50.0%
40.0%
30.0%
20.0%
10.0%
0.0%
76.5%
31.0%
1-Year
2-Years
3-Years
4-Years
5-Years
Period of Time
Total
Localized
Regional
Distant
Unstaged

8. Special Oral Cancer Survey Results

The Oral Cancer Screening & Counseling Survey was conducted in August 2002. Its purpose was to determine if more education about oral cancer prevention techniques are needed in the dental community.

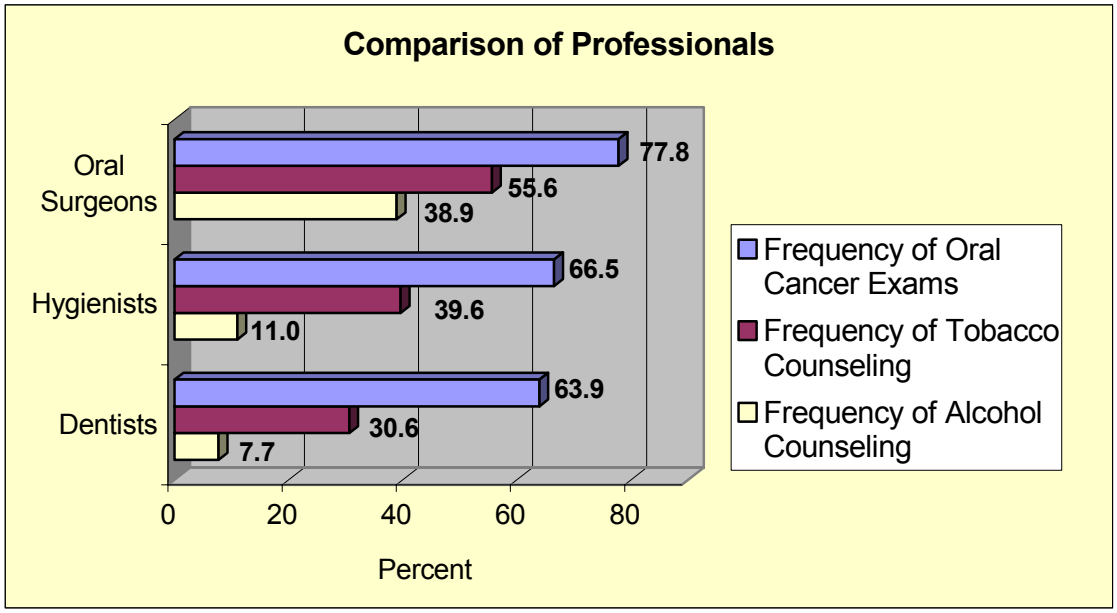
One questionnaire was sent to all licensed/practicing dentists (824 listed in 2001) in Nevada, and a separate questionnaire was sent to all licensed/practicing oral surgeons (18 in 2001) in Nevada. The response rate is 62.1 percent for dentists and 100 percent for oral surgeons. Each dental professional was asked questions about their counseling and screening procedures, with dentists reporting on behalf of their hygienists.

For questions involving the frequency of a procedure, the respondents could choose one from:

a. Rarely (0%-20%)
b. Occasionally (20%-50%)
c. Frequently (50%-80%)
d. Almost Always (80%-100%)

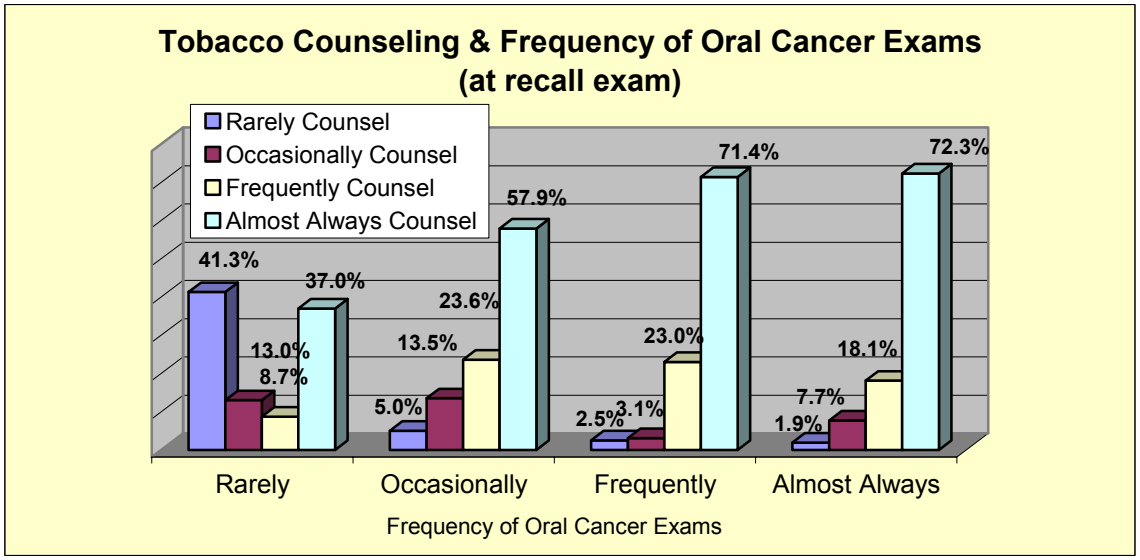
The following chart summarizes the percentage of each profession that chose "Almost Always" for the frequency of tobacco counseling, alcohol counseling, and oral cancer exams. Statistically, differences in procedures between dentists and hygienists cannot be confirmed. The frequency of oral cancer exams is roughly the same for all three professions. However, oral surgeons self-reported more counseling on tobacco and alcohol than other dental professionals. Survey results indicate that although dental professionals perform a sufficient number of screenings, more education on patient counseling, e.g. tobacco cessation programs, is needed in the dental community.

Figure 8.1



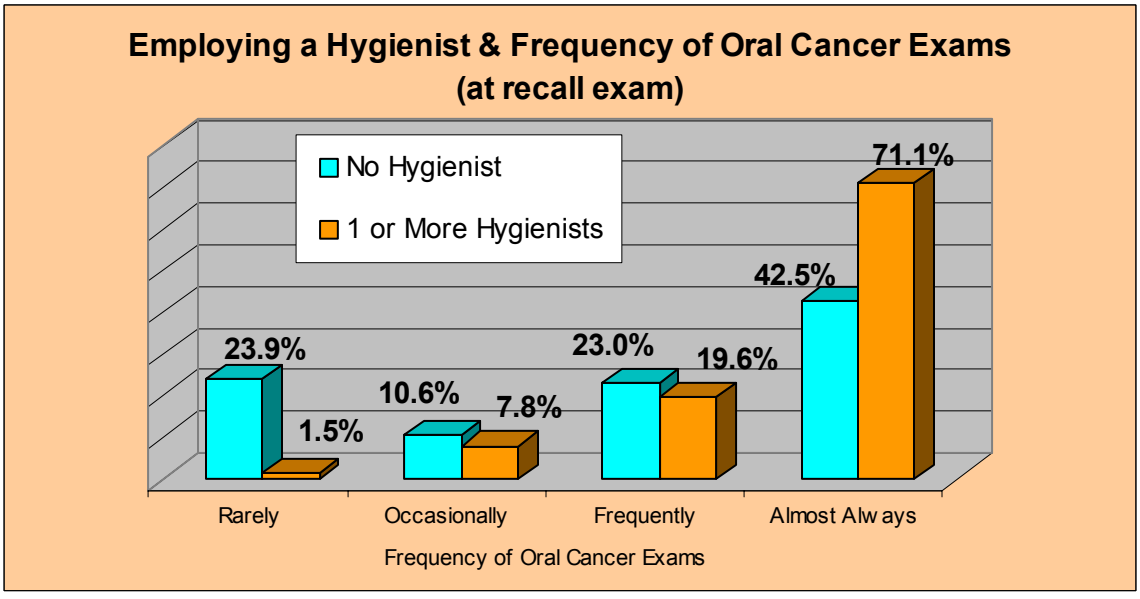
Frequency of counseling about tobacco and alcohol is associated with the frequency of oral cancer exams. Dentists who counsel at a specific frequency are more likely to perform oral cancer exams at the same frequency or better (see Figure 8.2).

Figure 8.2



Another characteristic that is related to the frequency of oral cancer exams is whether or not a hygienist is employed. Dentists who employ at least one hygienist perform oral cancer exams more frequently than those who do not. Seventy-one percent of respondents with hygienists counsel almost always compared to forty-three percent of those who have no hygienist. The survey results suggest that most hygienists (73.5%) perform oral cancer exams at every recall appointment, regardless of their dentist's procedure. The remainder of hygienists are equally likely to screen once every six months, once a year, or never.

Figure 8.3



Appendix A: Oral Health Resources

Statewide Assets for Oral Health Care

Licensing - According to the Nevada State Board of Dental Examiners as of March 24, 2003, there are 1,055 dentists with active Nevada licenses. Since SB 133 was enacted (authorizing licensure by credential), 129 dentists have been licensed by credential. Of the 129 dentists licensed under SB 133, three have geographically restricted licenses. A dentist with a geographically restricted license must practice for a non-profit, in a Federally Qualified Health Center (FQHC) or in a county that has been designated as underserved. Of the 1,055 dentists with active licenses, 13 have limited licenses and are working under contract with the University and Community College System of Nevada, and two have restricted licenses. Dentists with restricted licenses must have entered into a contract with a facility approved by the Health Division of the Department of Human Services to provide publicly funded dental services exclusively to persons of low income for the duration of the restricted license. A person to whom a restricted license has been issued may perform dental services only under the general supervision of a licensed dentist. "Supervision by a dentist" means that a dentist is physically present in the office where the procedures are being performed, while these procedures are being performed.

Medicaid/SCHIP - The Nevada Medicaid program, "Healthy Kids," covers children to age six whose family income is up to 133 percent of the Federal Poverty Level (FPL), and children age six through 18 whose family income is up to 100 percent of FPL. These children, and children ages 19 up to 21 who meet state eligibility requirements, receive comprehensive dental services, as required under Medicaid's Early Periodic Screening and Diagnostic Test service.

Nevada has established a separate SCHIP program, called "Nevada ✓Check Up," that covers children age birth to 18 who have neither health coverage nor are Medicaid eligible and whose family income is at or below 200 percent of the FPL. It offers benefits equivalent to the State's largest managed care organization, with dental care, vision, hearing, and pharmacy services added. Dental services include preventive, diagnostic, and treatment services (placement of more than seven stainless steel crowns in one visit requires prior authorization) and medically necessary orthodontics (requiring prior authorization). Nevada ✓Check Up families with income above 175 percent of the FPL pay premiums of $50 per quarter; families above 150%, but at or below 175 percent of the FPL pay premiums of $25 per quarter, and families at or below 150 percent FPL pay $10 per quarter. No co-payments are required.

Western Interstate Commission for Higher Education (WICHE) - WICHE is a student exchange program in which the following states participate: Alaska, Arizona, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Wyoming. Nevada residents who wish to attend dental school have a choice of two programs, the Professional Student Exchange Program (PSEP) and the Health Care Access Program (HCAP).

In the PSEP, the student's tuition is paid directly to the school on the student's behalf at a reduced rate. The student must repay 25 percent of the support fee within 5-10 years after graduation and return to Nevada to practice dentistry for as many years as the student received support. In the HCAP, the tuition is paid directly to the school on the student's behalf at a reduced rate. The student is not required to repay any portion of the funds. However, the student must return to Nevada and practice in a dentally underserved region or with a dentally underserved population for two years. The penalties on these programs are severe; if the student does not fill the requirements, the student is requested to pay triple the principle and 8 percent interest compounded daily. There are currently 12 dentists with a WICHE obligation.

Donated Dental Services - Dentists throughout the State have volunteered to provide comprehensive dental care at no charge to people of all ages who, because of a serious disability, advanced age, or medical problems, lack adequate income to pay for needed dental care. From 12/30/99 through 6/1/02, 48 patients were provided with $134,349 worth of treatment. There is currently a very long waiting list.

Crackdown on Cancer - Through the Crackdown on Cancer program, dental professionals travel to public high schools throughout Nevada via a mobile RV health clinic to screen students for oral health problems stemming from tobacco use. Once identified, students are provided treatment and counseling. All students in the participating class are given preventive education whether screened or not. In addition to recording the severity of lesions, the program also records untreated decay (referred to as "decayed" teeth), missing teeth, treated decay ("filled" teeth) and frequency of tobacco use for each student. Although high school students are targeted, some middle school students and adults associated with the schools are also screened. As of June 2002, 10,292 records were recorded from the screenings statewide.

Southern Nevada Assets for Oral Health Care

Medicaid/SCHIP - In Clark County, Healthy Kids (Medicaid) dental services are provided within a mandatory, fully capitated managed care program. The two managed care organizations (MCO), Health Plan of Nevada and Nevada Health Solutions, have contracted with the School of Dentistry, University of Nevada, Las Vegas (UNLV)—which began its first class in August 2002—to serve as the provider of dental care for their Medicaid members in Clark County. The school receives a capitated rate, and dental services are provided by the school's three faculty practices: the School of Medicine General Practice Dental Residency Program, the School of Medicine Pediatric Dental Residency Program, and the Community College of Southern Nevada Faculty Practice. There are some private dentists who subcontract with UNLV and receive the regular fee-for-service reimbursement. Under the MCO contracts, UNLV will be the provider for approximately 40 percent of the population eligible for Medicaid coverage. In Clark County, Nevada ✓Check Up (SCHIP) dental services are provided through the UNLV School of Dentistry provider network under contract with the MCOs.

Between February 2002 and January 2003, the UNLV School of Dentistry program and its network of dentists have treated over 30,000 Medicaid and Nevada ✓Check Up recipients and other low-income individuals, 90 percent of whom are children. Approximately 35 percent of the dental services provided were preventive and 65 percent restorative.

UNLV School of Dentistry - The inaugural class (Aug. 2003) has 75 students: 40 in state and 35 out of state. The UNLV School of Dentistry provides low cost dental services to Southern Nevadans at several dental clinics that are serving Medicaid and low-income populations in Southern Nevada.

University of Nevada School of Medicine Pediatric Dental Residency Program - The University of Nevada School of Medicine Pediatric Dental Residency Program currently provides services to Medicaid, SCHIP and uninsured children utilizing the various faculty practices located in Las Vegas. A new clinic, the Children's Dental Health Center, is scheduled to open sometime in the second half of 2003. For more information, please contact Robert O. Cooley, D.D.S. at (702)-360-8805.

University of Nevada School of Medicine Dental General Practice Residency Program - The program is located one block from the University of Nevada School of Medicine (UNSOM) and University Medical Center (UMC) in Las Vegas. The clinic is open eight hours a day (7:30 AM - 4:30 PM), five days a week. For further information please contact George J. McAlpine, D.D.S., M.S. (Director) at (702) 671-5134.

Community College of Southern Nevada Dental Hygiene Program - The Community College of Southern Nevada Dental Hygiene Program is located at the Charleston Campus in the Health Sciences Center (HSC), at the intersection of Torrey Pines and West Charleston. Low cost preventive services are available to the community.

Miles for Smiles - The goal of the *Miles for Smiles* program is to increase access to clinical and educational oral health services by offering these services via a mobile dental clinic. *Miles for Smiles* includes four basic components: comprehensive dental services by licensed dental professionals; case management and referral services for ongoing treatment for patients initially seen on the mobile unit; an educational program for children enrolled at targeted high-risk schools; and a community and public relations campaign dedicated to addressing oral health issues faced by at-risk populations. From July 1, 2002 through March 26, 2003 *Miles for Smiles* performed 3,824 procedures and provided $208,652 worth of services.

St. Rose Dominican Positive Impact Program - The Positive Impact program, offered through St. Rose Dominican Hospitals since 1988, identifies children in need of emergency dental care through school nurses in area elementary, middle and high schools. Dentists donate their time and services to children who require emergency care. The program services 70 schools in Henderson and the Southeast areas with clients reaching as far as Searchlight and Boulder City. The Positive Impact program is restricted to referrals by school nurses. The Miles for Smiles program also provides non-

emergency services two days a week to clients identified through this program. For more information, call (702) 616-7525.

Huntridge Teen Dental Clinic - Huntridge Teen Dental Clinic provides preventive and restorative dentistry to uninsured adolescents residing in Clark County. A dental hygienist is employed two days a week to provide preventive services. Volunteer dentists provide restorative services. From January to March 2003, Huntridge Teen Dental Clinic provided dental services to 150 adolescents. Of these, 54 were new patients and 96 were returning patients. During this period of time 109 clients received oral hygiene instruction, 121 cleanings were performed, and 54 fluoride treatments were provided. Restorative procedures provided included 35 fillings, 5 root canals and 1 extraction. For more information, call (702)-732-8776.

Channel 10, Ready to Learn, Reading For Smiles Dental Health Workshops - Ready to Learn is a nationwide Public Broadcasting Service initiative implemented at the local level by PBS stations. In Las Vegas, KLVX and the Junior League of Las Vegas have teamed up to tackle a serious issue facing children in our community – dental health. Since good physical health helps children arrive at school, "Ready To Learn," KLVX staff and Junior League volunteers work closely to provide dental health resources to families in need. The joint project, initiated in October 2001 and dubbed Reading For Smiles, consists of family workshops featuring song and hands-on activities. Children who participate in these workshops take home resource bags stuffed with new toothbrushes, dental flossers, an age-appropriate dental health book, and a variety of resource materials for parents. The Reading For Smiles program is made possible through funding and support from the Junior League of Las Vegas, with local dentists, hygienists, and community health agencies collaborating to provide dental health resources to families in need. Each year, over 60 Reading For Smiles workshops are conducted, reaching more than 2,000 children and their parents in the greater Las Vegas community.

Northern Nevada Assets for Oral Health Care

Health Access Washoe County - Health Access Washoe County (HAWC) is a community health center dedicated to providing low cost primary and preventive medical and dental services to people who do not currently have access to the health care system. In addition to accepting Medicaid and SCHIP, HAWC also provides a sliding fee scale. HAWC operates a ten-chair dental clinic on South Wells Avenue in Reno. A second six-chair dental clinic opened on East 4th Street in April 2003. In 2002, HAWC had 9,145 dental visits. Due to an increase in the number of operatories and the number of providers, HAWC expects to provide over 15,000 dental visits in 2003.

Saint Mary's Take Care A Van - Saint Mary's has three different dental programs in place; a mobile van that provides restorative dental treatment, a mobile van that provides preventive dental treatment, and a dental sealant program utilizing portable dental equipment. The restorative van rotates between eight locations in Washoe and Lyon

Counties. Medicaid and Nevada ✓Check Up clients are seen. Uninsured clients are seen using a sliding fee scale. Currently, 85 percent of the patients seen on the restorative van are children. Prevention services are provided in a four county area at 47 elementary schools. From July 1, 2002 through February 13, 2003, dental sealants have been placed on 1,096 second-grade children. The portable equipment is also used to place dental sealants on second graders in schools where greater than 50 percent of the enrolled children are eligible for free and reduced lunch. The program intends to place dental sealants on 3,200 second-grade children throughout the state. A fourth dental van should be operational in the summer of 2003. For more information call (775)-770-3951.

Northern Nevada Dental Health Program - The Northern Nevada Dental Society/Health Program (NNDHP) provides free dental care to eligible children in Northern Nevada. Eligible children are (1) age 18 years and younger who meet the Medicaid or Nevada Check-Up guidelines and can provide a copy of their current identification card, and (2) have been denied Medicaid or Nevada ✓Check Up and whose family income falls between 133 percent and 200 percent of the current poverty guidelines, as verified by W-2 or current check stub. In this program, area dentists give their services to qualified children free of charge. There are currently about 80 doctors involved in the program. NNDHP acts as a clearing-house, screening the children and referring them to the appropriate caregiver. Approximately 360 children receive services each year through this program. For more details, call (775)-770-6609.

Truckee Meadows Community College Dental Hygiene Program - Low cost preventive services are available at the TMCC Dental Hygiene Clinic. For more information contact Janet Storie, Dental Clinic Manager at (775)-673-8247.

Salvation Army Referral Service - A limited number of individuals are referred on a first-come, first-served basis to dentists who have agreed to provide dental extractions on a pro bono basis. Approximately 60 individuals receive services through this program each year.

Rural/Tribal - Great Basin Primary Care Association (GBPCA) received an $800,000 grant from the Trust Fund for a Healthy Nevada to assist rural and underserved communities in the establishment of dental facilities. Communities targeted included Reno, Yerington, Silver Springs, Elko, Fallon, Carson City, and Winnemucca.

In Reno, funding enabled Health Access Washoe County (HAWC) to expand the capacity of their clinic from 7 to 10 operatories. While HAWC is not located in a dental Health Professional Shortage Area (HPSA), it provides dental services to clients from throughout northern Nevada.

At the Lahontan Valley Medical Center, dental services are provided to Medicaid, Nevada ✓Check Up and uninsured clients. At this time, dental hygiene services are available 2 days per week and dental services are available 2 days per month. Each provider sees approximately 7 patients per day. For information or to schedule an appointment, contact Crystal Huerta at (775)-463-6538.

Preventive dental hygiene services are provided to Medicaid, Nevada ✓Check Up and uninsured clients through the Mason Valley Healthy Smiles program using portable dental equipment. Services provided by a dental hygienist, include cleanings, fluoride treatments, and patient education with an emphasis being placed on children and disabled adults. Services to uninsured are provided on a sliding fee scale, based on income and family size. Future plans include the establishment of a permanent facility and hiring of additional dental staff to complete the spectrum of services. For information and to schedule an appointment, call Crystal Huerta at (775)-463-6538.

Through a partnership between GBPCA, the Community College, and the Pediatric Dental Residency Program, a pediatric dental clinic is being established in Elko. Currently, a geographically restricted licensed dentist provides dental services 2 days per month in the office of a private practice dentist who donates the use of the facility. To date, the program dentist has performed 114 dental screenings. He has treated 14 children as outpatient surgeries and 15 children in-office.

Through the partnership with GBPCA, both the Washoe Tribal Health Clinic, and the Fallon Tribal Health Center provide dental services to non-tribal members who are covered by Medicaid, Nevada ✓Check Up or private insurance.

Tribal members may access dental services at the following locations: Washoe Tribal Health Clinic, Fallon Tribal Health Center, Yerington Paiute Tribal Clinic, Reno Sparks Health and Human Services Center, Pyramid Lake Health Clinic and Elko Southern Bands Tribal Health Center.

Links to Oral Health Resources

- Nevada State Board of Dental Examiners http://www.nvdentalboard.org/
- Nevada Dental Association http://www.nvda.org/
- Nevada Dental Hygienist's Association http://www.nvdha.org/
- Great Basin Primary Care Association http://www.gbpca.org/dental/
- Nevada State Health Division http://health2k.state.nv.us/oral/index.htm
- University of Nevada School of Medicine Center for Education and Health Services Outreach http://www.unr.edu/med/dept/CEHSO/
- University of Nevada School of Medicine Dental General Practice Residency Program http://www.unr.edu/med/residency/dental/
- Western Interstate Commission on Higher Education (WICHE) http://wiche.state.nv.us/
- University of Nevada Las Vegas, School of Dentistry http://www.unlv.edu/dentalschool/
- Community College of Southern Nevada Dental Hygiene Program http://www.ccsn.nevada.edu/health/dentalh.htm
- Truckee Meadows Community College Dental Hygiene Program http://www.tmcc.edu/dental/hygiene/
- Crackdown On Cancer http://www.unlv.edu/News_Bureau/News_Releases/2001/Sep01/786.html

- Health Access Washoe County http://www.hawcinc.org/
- Saint Mary's Community Outreach Program http://www.saintmarysreno.com/

Appendix B: Technical Notes

Healthy Smile-Happy Child Screening Survey Methods

Sampling: An electronic list was obtained from the Department of Education of all public elementary schools in Nevada with third grade children (306 schools and 29,128 third grade students). All schools with at least 20 children in third grade were included in the sampling frame (267 schools and 28,853 students). The sampling frame was stratified by region: Clark County, Washoe County, and Rest of State. Schools within each region were ordered by percent of children eligible for the free and/or reduced price meal program. Fifty-one elementary schools were randomly selected for participation in the oral health survey. Only those children that returned a positive consent form were screened.

Data Management and Analysis: The data were entered into a Microsoft Access database that was exported to Epi Info 6.04 for analysis. Epi Info is a public access software program developed and supported by the Centers for Disease Control and Prevention. To account for differences in response rates between schools, the data were adjusted for non-response. The number of children enrolled in each school was divided by the number of children screened to obtain the non-response sampling weight for each school. Data from one school was excluded from analysis due to improper data recording.

Screening Methods: Sixty volunteer dentists and one hygienist completed all of the screenings. The screenings were completed using gloves, flashlights, cotton swabs, and disposable mouth mirrors supplied by the OHP. The diagnostic criteria used are outlined in *Basic Screening Surveys: An Approach to Monitoring Community Oral Health*. Each of the volunteer dentists either attended a survey training session or was sent the Basic Screening Survey training video developed by the Association of State and Territorial Dental Directors.

Behavioral Risk Factor Surveillance Survey*

*excerpt from Center for Health Data and Research, NV Bureau of Health Planning and Statistics

When data are used without weights, each record counts the same as any other record. Implicit in such use are the assumptions that each record has an equal selection probability and that noncoverage and nonresponse are equal among all segments of the population. When deviations from these assumptions are large enough to affect the results obtained from a data set, then weighting each record appropriately can help to adjust for assumption violations. An additional, but conceptually unrelated, reason for weighting is to make the total number of cases equal to some desired number, for state BRFSS data this is the age 18 and older state population. In the BRFSS, post-stratification serves as a blanket adjustment for noncoverage and nonresponse and forces the total number of cases to equal population estimates for each geographic stratum, which for the BRFSS is usually a state.

Following is a general formula that reflects all the factors taken into account in weighting the 2002 BRFSS data. Where a factor does not apply its value is set to one for calculation.

FINALWT = STRWT * 1 OVER NPH * NAD * POSTSTRAT

FINALWT is the final weight assigned to each respondent.

STRWT accounts for differences in the basic probability of selection among strata (subsets of area code/prefix combinations). It is the inverse of the sampling fraction of each stratum. There is seldom a complete correspondence between strata, which are defined by subsets of area code/prefix combinations, and regions, which are defined by the boundaries of government entities.

1/NPH is the inverse of the number of residential telephone numbers in the respondent's household.

NAD is the number of adults in the respondent's household.

POSTSTRAT is the number of people in an age-by-sex or age-by-race/ethnicity-by-sex category in the population of a region or a state divided by the sum of the preceding weights for the respondents in that same age-by-sex or age-by-race/ethnicity-by-sex category. It adjusts for non-coverage and non-response and forces the sum of the weighted frequencies to equal population estimates for the region or state.

Crackdown on Cancer Sampling Notes

The Crackdown on Cancer program visited 56 middle schools, high schools, and alternative schools such as charter schools. In the 2002-2003 academic year, only screening took place in 14 of the 17 counties in Nevada. As there was no random process in choosing the students because convenience samples were taken, we provide here a list of which students were screened at each location so the reader may carefully interpret the unadjusted results presented in the report.

School	Students Screened From
1. Academy of Career Education	Entire school
2. Agassi Boys and Girls Club	Entire teen center
3. Basic High School	Health/PE
4. Beatty High School	Entire school
5. Bonanza High School	Health
6. Caliente Youth Center	Entire center
7. Carlin Combined High School	Entire school
8. Carson High School	World history
9. Carson Valley High Middle School	Entire school

10. Cheyenne High School	Health
11. Churchill County High School	Entire school
12. Clark High School	Health/science
13. Desert Pines High School	Health
14. Douglas High School	Entire school
15. Durango High School	Health
16. Eldorado High School	Health
17. Elko High School	Entire school
18. Fernley High School	Health classes
19. Foothill High School	Health classes
20. Galena High School	Health/PE/ROTC
21. Green Valley High School	Health
22. Horizon West High School	Entire school (alternative high school)
23. Hug High School	Health/Driver's Ed/ROTC/ Child Development
24. Incline High School	Health/ROTC
25. Indian Spring Middle School/High School	Entire school
26. Jackpot High School	Entire school
27. Keystone Academy	Entire school (charter school)
28. Lincoln County High School	English/Government
29. Lowry High School	9th grade
30. McQueen High School	Entire school
31. Mineral County High School	Entire school
32. North Valley High School	Entire school
33. Owyhee High School	Entire school
34. Paharanagat Valley High School	Health
35. Pahrump High School	Health
36. Pau-Wa-Lu Middle School	Health
37. Pershing High School	Entire school
38. Rancho High School	Health/Magnet program
39. Reno High School	Health/ROTC
40. Southern Nevada Vocational Center	Health (trade oriented high school)
41. Smith Valley High School	Entire school
42. Spanish Spring High School	Entire school
43. Sparks High School	9th grade
44. Spring Creek High School	Health
45. St. Teresa Middle School	7th and 8th grade
46. Sunset South	PE (alternative high school)
47. Tonopah High School	Health/PE
48. Valley High School	Health
49. Virgin Valley High School	Entire school
50. Washoe High School	9th grade
51. Wells High School	9th and 10th grade
52. Westcare Youth Center	Youth facility, teens

53. West Wendover Jr/Sr High School	7th and 8th grade
54. Western High School	9th grade
55. Whittenberg Juvenile Center	Entire center
56. Wooster High School	Health/PE

The geographic, age, sex, and race/ethnicity distributions of the sample are shown in the charts below.

Chart 1.

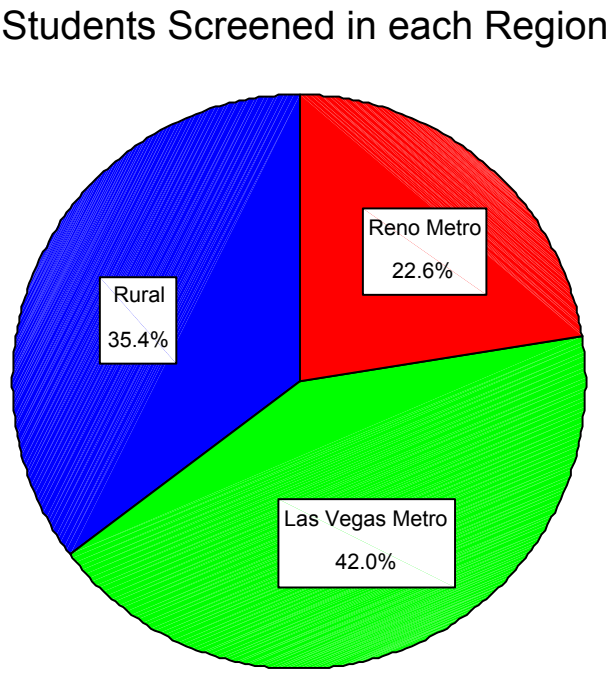


Chart 2.

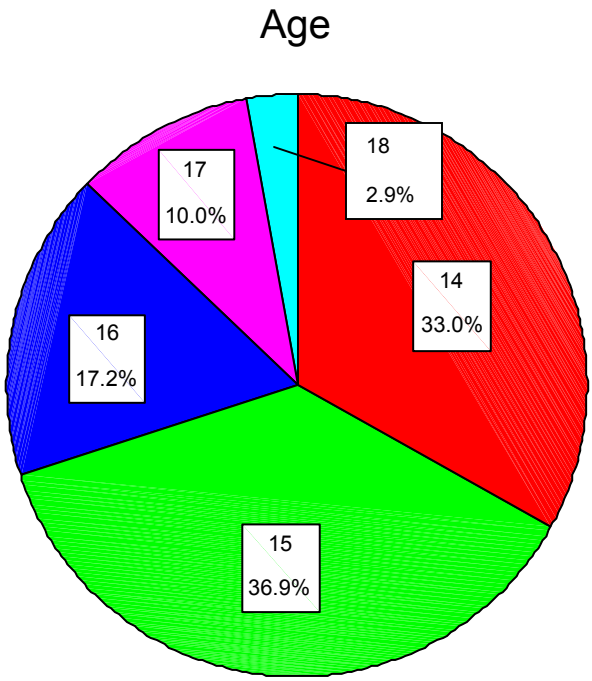


Chart 3.

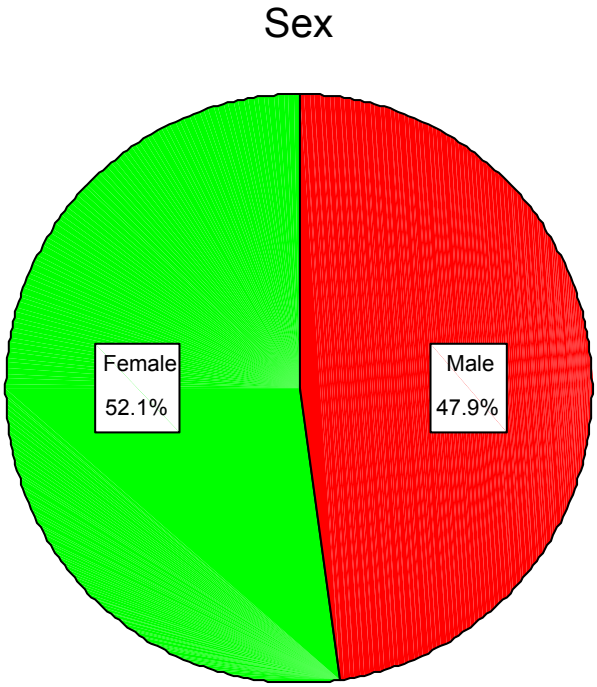


Chart 4.

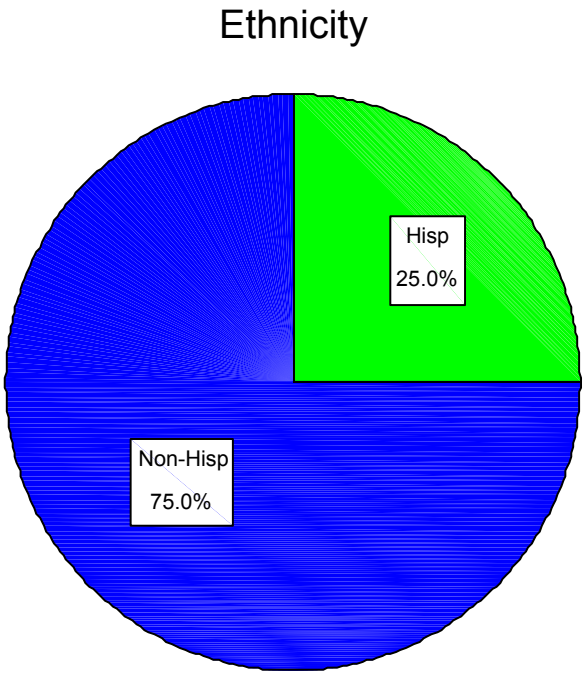
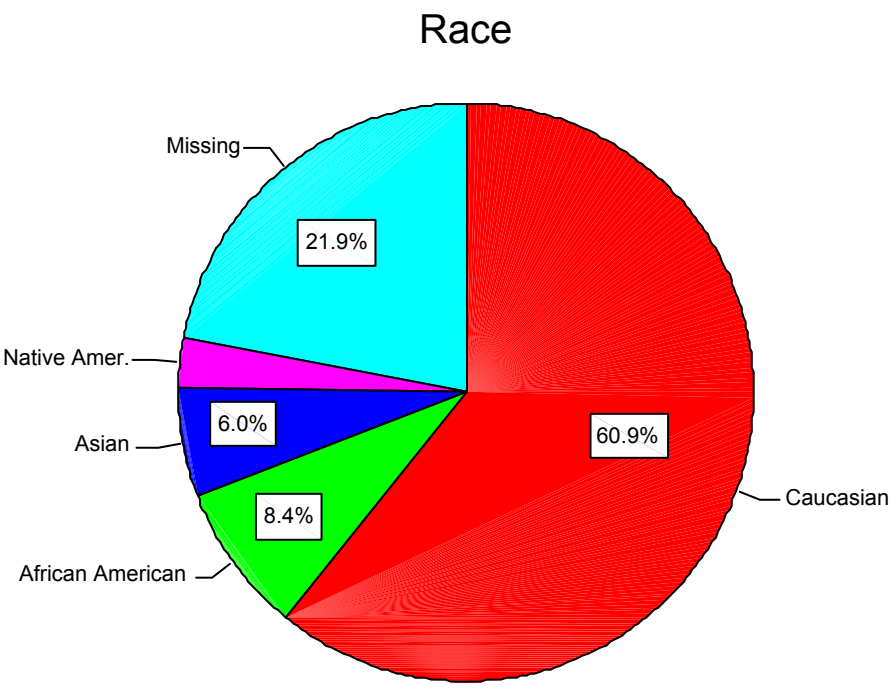


Chart 5.



Appendix C: BRFSS Data Tables

Below are additional summary tables for the 2002 BRFSS. These tables provide the results for each question by the following variables: Residence Region, Income, Employment Status, Education, and Marital Status.

Question 1: How long has it been since you last visited a dentist or a dental clinic for any reason?

Table Q1.1.

		Race/ethnicity categories									
		White only, Non-Hispanic	Black only, Non-Hispanic	Asian only, Non-Hispanic	Native Hawaiian or other PI only, Non-Hispanic	American Indian or Alaskan Native only, Non-Hispanic	Other race only, Non-Hispanic	Multiracial, Non-Hispanic	Hispanic	Don't Know	Total
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	66.7%	58.6%	66.6%	61.0%	56.3%	55.6%	63.4%	49.1%	57.7%	62.4%
	1 yr - 2 yrs ago	12.2%	20.5%	21.9%	2.7%	5.2%	17.8%	13.0%	18.8%	20.8%	14.1%
	2 yrs - 5 yrs ago	9.6%	8.2%	6.4%	31.8%	7.7%	5.0%	12.2%	14.8%	9.2%	10.7%
	5+ yrs ago	11.0%	12.8%	4.1%	4.5%	30.8%	20.8%	9.6%	11.2%	.8%	10.9%
	DK/NS	.2%						.1%			.2%
	Never	.1%		1.0%			.8%	1.7%	5.8%	11.6%	1.5%
	Refused	.2%							.3%		.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q1.2.

		Sex		
		Male	Female	Total
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	58.8%	66.2%	62.4%
	1 yr - 2 yrs ago	14.1%	14.2%	14.1%
	2 yrs - 5 yrs ago	11.5%	9.9%	10.7%
	5+ yrs ago	13.0%	8.7%	10.9%
	DK/NS	.2%	.1%	.2%
	Never	2.1%	.9%	1.5%
	Refused	.3%		.2%
Total		100.0%	100.0%	100.0%

Table Q1.3.

		Residence Region			Total
		Clark	Washoe	All other area	
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	60.8%	70.5%	60.9%	62.4%
	1 yr - 2 yrs ago	15.3%	11.0%	12.2%	14.1%
	2 yrs - 5 yrs ago	10.8%	8.8%	12.3%	10.7%
	5+ yrs ago	11.2%	7.9%	13.1%	10.9%
	DK/NS	.1%	.2%	.4%	.2%
	Never	1.7%	1.6%	.6%	1.5%
	Refused	.2%		.5%	.2%
Total		100.0%	100.0%	100.0%	100.0%

Table Q1.4.

		Income Level										Total
		<10,000	10,000 - 14,999	15,000 - 19,999	20,000 - 24,999	25,000 - 34,999	35,000 - 49,999	50,000 - 74,999	75,000+	DK/NS	Refused	
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	55.2%	47.7%	40.9%	41.8%	56.5%	63.8%	73.0%	79.1%	53.0%	71.6%	62.4%
	1 yr - 2 yrs ago	18.1%	22.0%	19.0%	16.0%	16.9%	16.4%	10.1%	9.3%	11.2%	13.8%	14.1%
	2 yrs - 5 yrs ago	11.3%	7.3%	21.9%	14.6%	14.2%	7.5%	7.6%	7.2%	18.9%	6.6%	10.7%
	5+ yrs ago	13.0%	18.6%	14.9%	21.0%	11.0%	11.3%	9.3%	4.1%	13.3%	6.4%	10.9%
	DK/NS	.2%	.9%		.1%		.2%	.1%		1.0%	.1%	.2%
	Never	2.2%	3.5%	2.5%	6.5%	1.4%	.8%		.3%	2.7%		1.5%
	Refused			.9%							1.4%	.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q1.5.

		Employment Status									
		Employed for wages	Self-employed	Out of work for >1 yr	Out of work for <1 yr	A homemaker	A student	Retired	Unable to work	Refused	Total
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	64.7%	68.0%	28.0%	40.4%	62.9%	55.8%	62.5%	54.1%	67.7%	62.4%
	1 yr - 2 yrs ago	13.7%	7.1%	33.8%	22.7%	12.5%	33.3%	12.7%	13.8%	7.2%	14.1%
	2 yrs - 5 yrs ago	10.4%	10.1%	22.7%	17.9%	11.3%	6.9%	10.6%	9.1%	1.9%	10.7%
	5+ yrs ago	8.8%	13.3%	13.5%	18.7%	10.9%	4.0%	13.2%	23.1%	14.3%	10.9%
	DK/NS	.0%	.4%		.3%	.2%		.2%		7.4%	.2%
	Never	2.1%	1.1%	1.9%		2.3%		.1%		1.5%	1.5%
	Refused	.1%						.7%			.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q1.6.

		Education Level							
		Only kindergarten	Elementary	Some high school	High school graduate	Some college or tech school	College graduate	Refused	Total
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago		33.0%	47.5%	57.7%	66.4%	74.6%	73.3%	62.4%
	1 yr - 2 yrs ago	73.5%	12.4%	12.2%	17.2%	11.3%	14.0%	5.4%	14.1%
	2 yrs - 5 yrs ago	6.0%	27.7%	13.9%	11.8%	10.4%	5.5%	2.9%	10.7%
	5+ yrs ago	20.6%	19.0%	21.9%	11.4%	10.6%	5.3%	18.5%	10.9%
	DK/NS			.1%	.2%	.1%	.1%		.2%
	Never		7.9%	4.5%	1.6%	.6%	.4%		1.5%
	Refused					.6%			.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q1.7.

		Marital Status							
		Married	Divorced	Widowed	Separated	Never married	A member of an unmarried couple	Refused	Total
How long has it been since you last visited a dentist or a dental clinic for any reason?	< 12 months ago	63.7%	61.5%	54.8%	72.4%	59.1%	64.4%	74.1%	62.4%
	1 yr - 2 yrs ago	15.4%	12.8%	13.9%	10.7%	14.0%	6.8%	6.0%	14.1%
	2 yrs - 5 yrs ago	10.3%	11.1%	13.0%	4.7%	10.3%	15.6%	10.2%	10.7%
	5+ yrs ago	9.2%	12.2%	17.2%	12.2%	13.1%	11.9%	9.7%	10.9%
	DK/NS	.0%	.4%	.9%		.1%			.2%
	Never	1.4%	1.1%	.2%		3.3%			1.5%
	Refused		.9%				1.3%		.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 2: How many of your permanent teeth have been removed because of tooth decay or gum disease?

Table Q2.1.

		Race/ethnicity categories									
		White only, Non-Hispanic	Black only, Non-Hispanic	Asian only, Non-Hispanic	Native Hawaiian or other PI only, Non-Hispanic	American Indian or Alaskan Native only, Non-Hispanic	Other race only, Non-Hispanic	Multiracial, Non-Hispanic	Hispanic	DK/NS	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	27.8%	38.4%	38.9%	18.8%	25.8%	27.0%	29.4%	32.4%	32.3%	29.5%
	6 or more, but not all	12.8%	9.7%	9.9%		4.0%	15.2%	10.8%	8.8%	5.9%	11.5%
	All	5.8%	5.9%	.8%	1.0%	21.9%	1.5%	5.2%	3.1%	.4%	5.1%
	DK/NS	1.3%	.9%		16.6%		8.7%	.4%	.1%	1.7%	1.2%
	None	51.9%	45.1%	50.4%	63.5%	48.3%	47.6%	54.2%	55.1%	59.7%	52.5%
	Refused	.3%							.3%		.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q2.2.

		Sex		
		Male	Female	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	28.7%	30.3%	29.5%
	6 or more, but not all	12.9%	10.0%	11.5%
	All	3.5%	6.8%	5.1%
	DK/NS	1.5%	.9%	1.2%
	None	52.9%	52.0%	52.5%
	Refused	.5%	.1%	.3%
Total		100.0%	100.0%	100.0%

Table Q2.3.

		Residence Region			
		Clark	Washoe	All other area	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	30.2%	28.2%	27.3%	29.5%
	6 or more, but not all	11.4%	9.9%	13.8%	11.5%
	All	4.7%	4.6%	7.9%	5.1%
	DK/NS	1.1%	1.2%	1.3%	1.2%
	None	52.3%	55.9%	49.2%	52.5%
	Refused	.2%	.1%	.6%	.3%
Total		100.0%	100.0%	100.0%	100.0%

Table Q2.4.

		Income Level										
		<10,000	10,000 - 14,999	15,000 - 19,999	20,000 - 24,999	25,000 - 34,999	35,000 - 49,999	50,000 - 74,999	75,000+	DK/NS	Refused	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	23.3%	31.0%	25.2%	32.8%	32.2%	29.5%	28.8%	31.2%	20.9%	30.1%	29.5%
	6 or more, but not all	25.7%	22.2%	15.7%	12.7%	13.7%	10.5%	5.9%	6.6%	13.6%	13.6%	11.5%
	All	6.9%	7.1%	10.4%	6.2%	10.3%	4.4%	2.9%	.6%	4.8%	4.6%	5.1%
	DK/NS	.2%	2.8%	.3%	1.2%	1.1%	1.3%	.7%	.6%	1.9%	3.4%	1.2%
	None	43.8%	36.8%	47.5%	47.1%	42.5%	54.3%	61.6%	61.0%	58.8%	45.8%	52.5%
	Refused			.9%		.2%					2.5%	.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q2.5.

		Employment Status									
		Employed for wages	Self-employed	Out of work for >1 yr	Out of work for <1 yr	A homemaker	A student	Retired	Unable to work	Refused	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	29.3%	27.5%	23.4%	25.4%	28.3%	24.4%	34.7%	33.0%	3.7%	29.5%
	6 or more, but not all	7.1%	15.8%	30.4%	19.6%	8.7%	2.3%	20.8%	25.9%	15.9%	11.5%
	All	2.9%	1.9%		3.4%	4.7%		16.6%	9.5%		5.1%
	DK/NS	.8%	.7%	.5%	.7%	.6%		3.1%	2.0%	7.4%	1.2%
	None	59.7%	53.8%	45.7%	50.9%	57.4%	73.3%	24.1%	29.6%	73.0%	52.5%
	Refused	.2%	.3%			.3%		.7%			.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q2.6.

		Education Level							
		Only kindergarten	Elementary	Some high school	High school graduate	Some college or tech school	College graduate	Refused	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	6.0%	33.9%	30.6%	31.5%	29.6%	26.5%		29.5%
	6 or more, but not all	88.0%	10.9%	19.3%	12.4%	10.3%	8.1%	18.5%	11.5%
	All		11.5%	8.2%	6.8%	4.8%	1.3%		5.1%
	DK/NS		.3%	1.5%	1.2%	1.5%	.9%		1.2%
	None	6.0%	43.4%	40.4%	48.0%	53.2%	63.0%	81.5%	52.5%
	Refused				.1%	.6%	.3%		.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q2.7.

		Marital Status							
		Married	Divorced	Widowed	Separated	Never married	A member of an unmarried couple	Refused	Total
How many of your permanent teeth have been removed because of tooth decay or gum disease?	1 to 5	33.2%	30.6%	25.4%	39.0%	17.8%	25.6%	3.5%	29.5%
	6 or more, but not all	11.4%	14.8%	25.8%	21.8%	4.2%	3.6%	24.3%	11.5%
	All	4.4%	8.8%	20.2%	6.1%	.4%	1.8%	1.3%	5.1%
	DK/NS	1.1%	1.4%	4.6%	.3%	.4%	.4%		1.2%
	None	49.7%	43.5%	23.9%	32.7%	77.2%	67.3%	70.9%	52.5%
	Refused	.2%	.9%				1.3%		.3%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Question 3: How long has it been since you had your teeth cleaned by a dentist or dental hygienist?

Table Q3.1.

		Race/ethnicity categories									
		White only, Non-Hispanic	Black only, Non-Hispanic	Asian only, Non-Hispanic	Native Hawaiian or other PI only, Non-Hispanic	American Indian or Alaskan Native only, Non-Hispanic	Other race only, Non-Hispanic	Multiracial, Non-Hispanic	Hispanic	Don't Know	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	65.0%	51.0%	68.9%	46.4%	58.6%	52.4%	60.8%	54.4%	70.4%	62.1%
	1 yr - 2 yrs ago	13.8%	19.4%	10.1%	40.6%	6.6%	20.7%	15.2%	16.8%	7.1%	14.7%
	2 yrs - 5 yrs ago	8.6%	11.9%	13.5%	3.8%	12.0%	5.1%	12.0%	12.8%	10.1%	9.8%
	5+ yrs ago	10.8%	14.6%	5.6%	6.6%	19.9%	21.4%	10.0%	10.0%	9.1%	10.8%
	DK/NS	.2%			2.7%			.5%	.5%	3.3%	.3%
	Never	1.4%	3.1%	1.9%		2.9%	.4%	1.5%	5.1%		2.1%
	Refused	.2%							.4%		.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q3.2.

		Sex		
		Male	Female	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	58.7%	65.6%	62.1%
	1 yr - 2 yrs ago	13.3%	16.1%	14.7%
	2 yrs - 5 yrs ago	11.3%	8.3%	9.8%
	5+ yrs ago	13.2%	8.2%	10.8%
	DK/NS	.4%	.3%	.3%
	Never	2.8%	1.4%	2.1%
	Refused	.4%		.2%
Total		100.0%	100.0%	100.0%

Table Q3.3.

		Residence Region			
		Clark	Washoe	All other area	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	61.7%	67.6%	57.3%	62.1%
	1 yr - 2 yrs ago	15.5%	12.5%	13.1%	14.7%
	2 yrs - 5 yrs ago	9.5%	8.9%	12.8%	9.8%
	5+ yrs ago	10.8%	8.9%	13.0%	10.8%
	DK/NS	.3%	.3%	.9%	.3%
	Never	2.1%	1.8%	2.4%	2.1%
	Refused	.2%		.5%	.2%
Total		100.0%	100.0%	100.0%	100.0%

Table Q3.4.

		Income Level										
		<10,000	10,000 - 14,999	15,000 - 19,999	20,000 - 24,999	25,000 - 34,999	35,000 - 49,999	50,000 - 74,999	75,000+	DK/NS	Refused	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	51.5%	44.7%	44.8%	45.0%	56.6%	62.2%	70.3%	77.5%	52.4%	68.6%	62.1%
	1 yr - 2 yrs ago	16.1%	24.2%	12.5%	16.1%	20.4%	16.2%	11.2%	11.3%	20.2%	10.1%	14.7%
	2 yrs - 5 yrs ago	11.5%	6.9%	20.9%	14.9%	11.8%	7.9%	6.7%	6.0%	9.9%	11.8%	9.8%
	5+ yrs ago	14.2%	17.6%	14.8%	19.5%	9.0%	11.6%	11.5%	4.4%	12.9%	6.2%	10.8%
	DK/NS	.2%	1.2%	1.5%	.2%	.1%	.3%			2.0%	.2%	.3%
	Never	6.5%	5.3%	4.5%	4.2%	2.1%	1.7%	.3%	.8%	2.7%	1.6%	2.1%
	Refused			1.0%							1.5%	.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q3.5.

		Employment Status									
		Employed for wages	Self-employed	Out of work for >1 yr	Out of work for <1 yr	A homemaker	A student	Retired	Unable to work	Refused	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	63.6%	67.7%	23.6%	39.9%	58.5%	58.1%	68.9%	49.6%	61.0%	62.1%
	1 yr - 2 yrs ago	14.3%	9.9%	35.1%	19.6%	14.3%	24.2%	13.6%	16.0%	3.1%	14.7%
	2 yrs - 5 yrs ago	9.4%	9.4%	23.3%	15.6%	10.9%	11.9%	7.6%	11.4%	1.9%	9.8%
	5+ yrs ago	9.9%	12.3%	18.0%	20.3%	14.9%	1.4%	7.1%	20.7%	17.6%	10.8%
	DK/NS	.4%	.2%			.4%		.0%		12.1%	.3%
	Never	2.3%	.4%		4.7%	1.0%	4.5%	1.8%	2.2%	4.2%	2.1%
	Refused	.1%						.9%			.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q3.6.

		Education Level							
		Only kindergarten	Elementary	Some high school	High school graduate	Some college or tech school	College graduate	Refused	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago		29.0%	47.5%	56.5%	66.6%	73.1%	76.1%	62.1%
	1 yr - 2 yrs ago	73.5%	14.8%	16.5%	17.3%	11.2%	14.5%		14.7%
	2 yrs - 5 yrs ago		30.5%	9.6%	11.5%	9.3%	5.7%		9.8%
	5+ yrs ago	14.5%	15.5%	19.5%	11.7%	10.6%	6.5%	18.5%	10.8%
	DK/NS		1.7%	.9%	.4%	.2%	.1%		.3%
	Never	12.0%	8.5%	6.1%	2.6%	1.4%	.1%	5.4%	2.1%
	Refused					.6%			.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table Q3.7.

		Marital Status							
		Married	Divorced	Widowed	Separated	Never married	A member of an unmarried couple	Refused	Total
How long has it been since you had your teeth cleaned by a dentist or dental hygienist?	< 12 months ago	63.7%	63.2%	63.8%	57.9%	56.3%	56.5%	75.5%	62.1%
	1 yr - 2 yrs ago	15.6%	13.0%	11.1%	9.6%	14.9%	14.8%	6.1%	14.7%
	2 yrs - 5 yrs ago	9.8%	9.9%	7.9%	5.0%	11.5%	9.3%	8.6%	9.8%
	5+ yrs ago	9.4%	11.1%	12.4%	17.6%	13.7%	12.2%	9.8%	10.8%
	DK/NS	.2%	.2%	.9%	4.8%	.4%			.3%
	Never	1.4%	1.6%	4.0%	5.2%	3.1%	5.9%		2.1%
	Refused		1.0%				1.3%		.2%
Total		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%